United States Department of Agriculture

Telegraph Vegetation Project

Draft Environmental Impact Statement

Volume III – Appendices

Forest Service Helena National Forest Helena Ranger District July 2015

TELEGRAPH VEGETATION PROJECT

Draft Environmental Impact Statement, Volume III – Appendices

Powell County, Montana

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Abstract: This draft environmental impact statement (EIS) considers three alternatives in detail. Alternative 1 is the no-action alternative, which provides a baseline for comparing the magnitude of environmental effects of the action alternatives. Alternative 2 would treat approximately 6,754 acres in the project area with a combination of intermediate harvest (434 acres), precommercial thinning (1,786 acres), regeneration harvest (3,484 acres), and prescribed fire (1,050 acres). Connected actions for Alternative 2 would include 8.5 miles of temporary road construction (followed by full obliteration), 43.1 miles of road maintenance, 32.6 miles road reconstruction, and improvement of 6 road/stream crossings. Alternative 3 would treat approximately 4,185 acres in the project area with a combination of intermediate harvest (434 acres), precommercial thinning (1,289 acres), regeneration harvest (1,856 acres), and prescribed fire (606 acres). Connected actions for Alternative 3 would include 3.4 miles of temporary road construction (followed by full obliteration), 42.9 miles of road maintenance, 28.3 miles road reconstruction, 30 mile of road decommissioning, and improvement of 9 road/stream crossings.

It is important that reviewers provide their comments at such times and in such a way that they are useful to the Agency's preparation of the EIS. Therefore, comments should be provided prior to the close of the comment period and should clearly articulate the reviewer's concerns and contentions. The submission of timely and specific comments can affect a reviewer's ability to participate in subsequent administrative review or judicial review. Comments received in response to this solicitation, including names and addresses of those who comment, will be part of the public record for this proposed action. Comments submitted anonymously will be accepted and considered; however, anonymous comments will not provide the respondent with standing to participate in subsequent administrative or judicial reviews.

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Table A-2 lists the units in the project area. It includes information/descriptions on current and target conditions. Please see the project record and/or individual specialists' reports for more detailed information.

Table A-1. Abbreviations found in table A-2

MA	management area
OS	overstory
US	understory
Regen	regeneration
Key to Species Composition	
DF	Douglas-fir
LP	lodgepole pine
PP	ponderosa pine
JUN	juniper
WBP	whitebark pine
SAF	subalpine fir
AS	aspen
ES	Engelmann spruce
PF	limber pine
Key to Regen	
Var	Variable
NRG	Natural Regeneration
N	No regen desired
Key to Logging Systems	
LS	Logging system
T	Tractor
H	Helicopter
S	Skyline/cable
N/A	None (hand treat)
Key to Forest Types	
NF	Non-forested
DF	Douglas-fir
LP	Lodgepole pine

Habitat Type Key	
230	PSME/FESC (Douglas-fir/rough fescue)
250	PSME/VACA (Douglas-fir/dwarf huckleberry)
262	PSME/PHMA-CARU (Douglas-fir/ninebark, pinegrass phase)
280	PSME/VAGL (Douglas-fir/blue huckleberry)
281	PSME/VAGL-VAGL (Douglas-fir/blue huckleberry, blue huckleberry phase)
290	PSME/LIBO (Douglas-fir/twinflower)
292	PSME/LIBO-CARU (Douglas-fir/twinflower, pinegrass phase)
323	PSME/CARU-CARU (Douglas-fir/pinegrass, pinegrass phase)
350	PSME/ARUV (Douglas-fir/kinnickinnick)
470	PICEA/LIBO (Spruce/twinflower)
640	ABLA/VACA (Subalpine fir/dwarf huckleberry)
650	ABLA/CACA (Subalpine fir/bluejoint)
651	ABLA/CACA-CACA (Subalpine fir/bluejoint, bluejoint phase)
654	ABLA/CACA-VACA (Subalpine fir/bluejoing, dwarf huckleberry phase)
660	ABLA/LIBO (Subalpine fir/twinflower)
662	ABLA/LIBO-XETE (Subalpine fir/twinflower, beargrass phase)
663	ABLA/LIBO-VASC (Subalpine fir/twinflower, grouse whortleberry phase)
670	ABLA/MEFE (Subalpine fir/menziesia)
690	ABLA/XETE (Subalpine fir/beargrass)
691	ABLA/XETE-VAGL (Subalpine fir/beargrass, blue huckleberry phase)
692	ABLA/XETE-VASC (Subalpine fir/beargrass, grouse whortleberry phase)
720	ABLA/VAGL (Subalpine fir/blue huckleberry)
730	ABLA/VASC (Sublapine fir/grouse whortleberry)
740	ABLA/ALSI (Subalpine fir, Sitka alder)
750	ABLA/CARU (Subalpine fir/pinegrass)

Management and Project Goals	Vegetation and Site Data

Table A-2. Treatment units in the project area

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
001	143	2,3	143	T-1	Regeneration Harvest	Aspen Restoration	T	NRG AS/DF/LP	AS	292	N	35LP/25DF/ 30ES, AS	95
002	34	2,3	34	T-1	Precommercial thinning	Precommercial Thin	T	NRG AS/DF/LP	AS	292	N	35LP/25DF/ 30ES, AS	95
003	6	2,3	6	T-1	Precommercial thinning	Precommercial Thin	T	NRG AS/DF/LP	AS	281	N	35LP/25DF/ 30ES AS	95
004	5	2,3	5	T-1	Precommercial thinning	Precommercial Thin	T	NRG AS/DF/LP	AS	660	N	35LP/25DF/ 30ES AS	95
005	29	2,3	29	T-1	Intermediate Harvest	Improvement Cut, Slashing, Jackpot Burn	T, S	N/A	DF	323	N	60DF/30LP/ 10AS	100
006	14	2,3	14	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	290	N	80LP/20DF	0
007	85	2,3	85	T-1	Intermediate Harvest	Improvement Cut, Slashing, Jackpot Burn	T	N/A	DF	292	N	60DF/30LP/ 10AS	100
008	61	2,3	61	T-1	Precommercial thinning	Precommercial Thin	T	N/A	DF	323	N	60DF/40LP	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
009	32	2,3	32	T-1	Intermediate Harvest	Improvement Cut, Slashing, Jackpot Burn	T	N/A	LP	292	N	70LP/30DF, AS	95
010	15	2,3	15	T-1	Intermediate Harvest	Improvement Cut, Slashing, Jackpot Burn	S	N/A	DF	292	N	70DF/30LP, AS	100
011	113	2,3	113	T-1	Regeneration Harvest	2-Aged Shelterwood with Reserves, Site Prep Burn	T,S	NRG DF/ES/LP	LP	662	Y (2,3)	80LP/15DF/5ES, SAF	85
012	30	2,3	30	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	730	N	LP/DF/AF/AS	0
013	14	2,3	14	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	LP/DF/AF	0
014	7	2,3	7	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	LP/DF	0
015	12	2,3	12	T-1	Precommercial thinning	Precommercial Thin	T	N/A	DF	292	N	55DF/40LP/5AF	20
016	32	2 3	32 0	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	730	N	LP/DF/AF	0
017	22	2,3	22	T-1	Precommercial thinning	Precommercial Thin	T	N/A	DF	692	N	60DF/40LP	20

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
018	69	2,3	69	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	691	N	85LP/15DF	0
019	47	2 3	47 16	T-1 M-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	Adv & NRG DF/ES/LP	LP	740	Y (2)	80LP/20DF, ES, SAF	85
020	21	2,3	21	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	Adv & NRG LP/DF/ES/AS	LP	662	N	99LP/1ES, DF, AS	90
021	15	2,3	15	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	LP/DF/AF	0
022	65	2 3	65 48	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	S	Adv & NRG LP/DF/ES	LP	662	Y (2,3)	90LP/10ES, DF, SAF	85
023	22	2,3	22	T-1	Intermediate Harvest	Improvement Cut, Slashing, Jackpot Burn	T	N/A	LP	292	N	60LP/30DF/ 10SAF, AS	95
024	11	2,3	11	M-1	Prescribed Fire	Slashing, Handpiling, Burning Piles	N/A	N/A	LP	660	N	70LP/30DF	100
025	35	2,3	35	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	692	N	LP/ES	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
026	28	2,3	28	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	692	N	LP/ES	0
027	37	2 3	37 13	T-1	Regeneration Harvest	2-Aged Shelterwood with Reserves, Site Prep Burn	T	NRG DF/ES/LP	LP	662	N	75LP/25DF, ES, SAF	80
028	11	2,3	11	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	LP/ES	0
029	24	2,3	24	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	LP/ES	0
030	10	2,3	10	T-1	Regeneration Harvest	Clearcut with Leave Trees	T	Adv, NRG DF/ES/LP	LP	662	N	95LP/5DF, ES, SAF	85
031	5	2,3	5	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	LP/AF/ES	0
032	18	2,3	18	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	LP/ES/AF	0
033	21	2 3	21 0	T-1 M-1	Regeneration Harvest	Clearcut with Leave Trees	T,S	Adv & NRG DF/ES/LP	LP	692	N	90/P/10ES, SAF, DF	95
034	343	2 3	343 203	T-1 M-1	Regeneration Harvest	Clearcut with Leave Trees	T,S	Adv & NRG DF/ES/LP	LP	692	Y (2,3)	90/P/10ES, SAF, DF	95
035	313	2 3	313 77	T-1 M-1	Prescribed Fire	Slashing, Broadcast Burn	N/A	Adv & NRG DF/ES/LP	LP	692	N	90LP/10ES, SAF, DF	95

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
036	85	2 3	85 0	T-1 M-1	Regeneration Harvest	Clearcut with Leave Trees	T,S	Adv & NRG DF/ES/LP	LP	692	Y (2)	90/P/10ES, SAF, DF	95
037	29	2 3	29 0	T-1 M-1	Regeneration Harvest	Clearcut with Leave Trees	T,S	Adv & NRG DF/ES/LP	LP	692	Y (2)	90/P/10ES, SAF, DF	95
038	36	2,3	36	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	LP/ES/AF	0
039	11	2,3	11	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	662	N	LP/ES/AF	0
040	40	2,3	40	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	LP/ES/AF	0
041	5	2,3	5	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	LP/ES/AF	0
042	10	2 3	10 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	LP/AF	0
043	16	2,3	16	M-1	Regeneration Harvest	2-Aged Seedtree with Reserves	T	NRG DF, LP	LP	323	N	85LP/15DF	100
044	9	2,3	9	M-1	Regeneration Harvest	Clearcut with Leave Trees	T	NRG LP, DF	LP	640	N	99LP/1DF	100
045	20	2,3	20	M-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	262	N	DF/LP/AF	0
046	7	2,3	7	M-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	692	N	DF/LP/AF	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
047	11	2 3	11 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	651	N	LP/AF/ES	0
048	28	2,3	28	T-1	Precommercial thinning	Pre-commercial Thin, Underburn	N/A	N/A	LP	692	N	LP/AF	0
049	22	2 3	22 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	692	N	80LP/20AF/1DF	0
050	37	2 3	37 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	730	N	LP/AF	0
051	6	2 3	6 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	662	N	80LP/15ES/5AF	0
052	20	2,3	20	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	Adv & NRG LP/ES/WB	LP	662	N	80LP/20SAF, ES	80
053	29	2 3	29 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	80LP/10AF/ 10ES	0
054	10	2,3	10	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	AF/LP	0
055	10	2,3	10	M-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	323	N	DF/LP/AF	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
056	71	2 3	71 0	T-1	Regeneration Harvest	2-aged Seedtree with Reserves, Site Prep Burn	T	NRG WBP, DF, LP, SAF	LP	692	Y (2)	65LP/15DF/ 20SAF, ES, WB	100
057	35	2 3	57 29	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	692	N	DF/LP/AF	0
058	25	2 3	25 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	323	N	LP/AF	0
059	95	2 3	95 29	T-1	Regeneration Harvest	2-aged Seedtree with Reserves, Site Prep Burn	T	NRG WBP, DF, LP, SAF	DF	692	Y (2)	30DF/30WB/ 30LP/10AF	80
060	63	2 3	63 0	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	Adv & NRG WBP/DF/LP	LP	692	Y (2)	80LP/15SAF/ 5DF, WB	50
061	18	2 3	18 0	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	Adv & NRG WBP/DF/LP	LP	692	Y (2)	80LP/15SAF/ 5DF, WB	50
062	12	2 3	12 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	692	N	LP/AF	0
063	126	2 2	126 70	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP, ES, SAF	LP	692	Y (2,3)	70LP/30SAF, ES	60

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
064	12	2,3	12	M-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	650	N	80LP/20ES	0
065	33	2,3	33	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	692	N	LP/DF/AF	0
066	78	2 3	78 63	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP, ES, SAF	LP	692	Y (2,3)	98LP/2SAF, ES	60
067	14	2,3	14	M-1	Precommercial thinning	Precommercial Thin	N/A	N/A	DF	654	N	60DF/25ES/ 15LP	0
068	12	2,3	12	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	230	N	90LP/10ES	0
069	10	2,3	10	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP/DF/ES	LP	692	N	99LP/1ES, DF, SAF	50
070	14	2 3	14 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	ES	350	N	50ES/45LP/5DF	0
071	19	2 3	19 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	350	N	60LP/40ES	0
072	5	2,3	5	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	ES	350	N	75ES/15LP/ 10DF	0
073	27	2 3	27 0	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	S	Adv & NRG LP/DF/ES	LP	640	Y (2)	80LP/15SAF/ 5DF, ES	95

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
074	5	2,3	5	T-1	Regeneration Harvest	2-Aged Shelterwood with Reserves, Site Prep Burn	S	NRG WBP, DF, LP, SAF	AF	640	N	40SAF/30LP/ 20DF/10ES, WB	100
075	20	2 3	20 0	T-1	Regeneration Harvest	Clearcut with Reserves, Site Prep Burn	S	Adv & NRG LP/WB/DF/ES	LP	692	Y (2)	70LP/15SAF/ 15ES, DF, WB	90
076	22	2 3	22 0	T-1	Regeneration Harvest	Clearcut with Reserves, Site Prep Burn	S	Adv & NRG LP/WB/DF/ES	LP	692	Y (2)	70LP/15SAF/ 15ES, DF, WB	90
077	106	2,3	106	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	Adv & NRG LP/DF/ES	LP	691	Y (2,3)	80LP/15SAF/ 5DF, ES	95
078	30	2,3	30	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	640	N	85LP/15ES	0
079	25	2 3	25 0	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	692	N	99LP/1DF, ES	40
080	21	2 3	21 0	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	S	Adv & NRG WB, DF, LP	LP	692	Y (2)	80LP/10WB/ 10SAF, ES, DF	70
081	10	2 3	10 0	T-1	Regeneration Harvest	Clearcut with Leave Trees	S	NRG LP/DF/ES	AF	640	Y (2)	70SAF/30LP/ trace ES, DF	70

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
082	7	2,3	7	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	640	N	60LP/35AF/5ES	0
083	3	2,3	3	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	640	N	55LP/45AF/ 10ES	0
084	54	2 3	54 6	T-1	Regeneration Harvest	Clearcut with Reserves, Site Prep Burn	T	Adv & NRG LP/WB/DF/ES	LP	640	Y (2,3)	70LP/15SAF/ 15ES, DF, WB	90
085	32	2 3	32 7	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	S	NRG LP/DF/ES	AF	690	Y (2,3)	70SAF/30LP/ trace ES, DF	70
086	37	2,3	37	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	692	N	60LP/40AF	0
087	42	2,3	42	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG WB, DF, LP	LP	692	Y (2,3)	90LP/5DF/5SAF	90
088	67	2,3	67	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	S	Adv & NRG WB, DF, LP	LP	640	Y (2,3)	90LP/5DF/5SAF	90
089	141	2 3	141 115	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG WB, DF, LP	LP	640	Y (2,3)	80LP/10WB/ 10SAF, ES, DF	70
090	3	2,3	3	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	670	N	95LP/5AF	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
091	94	2,3	94	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	NRG LP	LP	692	Y (2,3)	90LP/10SAF	85
092	11	2 3	11 0	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	350	N	50LP/30AF/ 10ES/5DF/5pifl	0
093	59	2,3	59	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG WB, DF, LP	LP	692	Y (2,3)	90LP/5DF/5SAF	90
094	11	2,3	11	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	AF	690	N	50AF/40LP/ 10ES	0
095	29	2,3	29	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	AF	640	N	45AF/30LP/ 15ES	0
096	19	2,3	19	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	90LP/5ES/5AF	0
097	20	2,3	20	M-1 T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	80LP/10AF/ 10ES	0
098	5	2,3	5	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	292	N	70LP/20ES/ 5DF/5AF	0
099	11	2 3	11 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	80LP/15ES/5AF	0
100	6	2 3	6 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	250	N	100LP	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
101	78	2 3	78 71	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP/SAF	LP	692	Y (2,3)	99LP/1SAF	80
102	8	2,3	8	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	690	N	100LP	0
103	31	2 3	31 13	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP/SAF	LP	692	N	98LP/2SAF	75
104	47	2 3	47 0	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP	LP	692	Y (2)	98LP/2SAF, ES	30
105	62	2,3	62	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP	LP	692	Y (2,3)	98LP/2SAF, ES	30
106	95	2 3	95 36	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP	LP	692	Y (2)	98LP/2SAF, ES	30
107	7	2,3	7	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	651	N	LP/AF	0
108	2	2,3	2	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	670	N	LP/DF/AF	0
109	40	2,3	40	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG WB, LP	LP	692	N	80LP/10ES/ 10SAF, WB	85

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
110	7	2 3	7 0	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG WB, LP	LP	692	N	90LP/10SAF, ES, WB	35
111	22	2 3	22 0	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG WB, LP	LP	692	Y (2)	90LP/10SAF, ES, WB	35
112	17	2 3	17 0	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP	LP	692	Y (2)	100LP/trace other	30
113	50	2 3	50 33	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP	LP	692	Y (2)	100LP/trace other	30
114	12	2,3	12	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG LP/ES/SAF	LP	692	N	90LP/5SAF/5ES	90
115	32	2,3	32	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	730	N	LP/other	0
116	76	2 3	76 23	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG LP/ES/SAF	LP	654	Y (2)	90LP/5SAF/5ES	90
117	95	2 3	95 6	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG LP/ES/SAF	LP	692	Y (2)	90LP/5SAF/5ES	90
118	10	2,3	10	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	730	N	AF/LP	0
119	29	2	29	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	250	N	LP/AF	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
		3	0										
120	27	2 3	27 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	692	N	AF/LP	0
121	10	2,3	10	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP/SAF	LP	692	N	99LP/1SAF	60
122	285	2 3	285 251	T-1	Prescribed Fire	Slashing, Broadcast Burn	N/A	NRG LP/ES/WB	LP	692	N	99LP/1 ES, SAF, WB	90
123	295	2 3	295 142	W-1 M-1 T-1	Prescribed Fire	Slashing, Broadcast Burn	N/A	LP	LP	670	N	80LP/20AF	90
124	37	2,3	37	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	60LP/40DF	0
125	2	2 3	2 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	750	N	80LP/15AF/5DF	0
126	128	2 3	128 0	T-1 M-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	50LP/30ES/ 18AF/2DF	0
127	16	2,3	16	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	660	N	75LP/20AF/ 4ES/1DF	0
128	19	2,3	19	T-1	Regeneration Harvest	Clearcut with Leave Trees	T	Adv & NRG LP/DF/ES/SAF	LP	663	N	90LP/10ES, SAF, DF	95

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
129	8	2 3	8 3	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	LP/AF	0
130	1	2,3	1	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	650	N	80LP/10AF/ 10ES	0
131	3	2,3	3	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	323	N	55LP/20AF/ 15ES/10DF	5
132	3	2,3	3	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	660	N	40LP/30AF/ 30ES	0
133	5	2,3	5	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	740	N	LP/AF/DF	0
134	16	2,3	16	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	720	N	50LP/30ES/ 15AF	0
135	3	2,3	3	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	50LP/50AF	0
136	3	2,3	3	W-1	Precommercial thinning	Precommercial Thin	N/A	N/A	AF	720	N	60AF/40LP	0
137	14	2 3	14 8	W-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	75LP/15AF/ 10ES	0
138	13	2 3	13 0	M-1	Regeneration Harvest	Clearcut with Leave Trees	T	Adv & NRG LP/DF/ES/SAF	LP	692	N	80LP/10ES/ 10DF, SAF	100

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
139	9	2,3	9	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	660	N	65LP/15ES/ 10AF/5DF	0
140	22	2,3	22	M-1 T-1	Regeneration Harvest	Clearcut with Leave Trees	T	Adv & NRG LP/DF/ES/SAF	LP	651	N	80LP/10ES/ 10DF, SAF	100
141	40	2,3	40	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	75LP/10DF/ 10ES/5AF	0
142	58	2 3	58 38	M-1	Prescribed Fire	Slashing, Broadcast Burn	N/A	NRG LP/ES/WB	LP	692	N	80LP/15ES/5WB	90
143	70	2 3	70 45	T-1 M-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	Adv & NRG LP/DF/ES/SAF	LP	690	Y (2,3)	75LP/15ES/ 5DF/5SAF	100
144	15	2 3	15 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	690	N	70LP/15DF/ 10ES/5AF	0
145	67	2 3	67 55	T-1	Regeneration Harvest	Clearcut with Leave Trees, Site Prep Burn	T	NRG LP, DF	LP	640	Y (2,3)	85LP/15DF	95
146	3	2 3	3 0	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	DF	640	N	60DF/30LP/ 10AF	0
147	24	2,3	24	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	292	N	55LP/35DF/ 5AF/5AS	0
148	10	2,3	10	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	280	N	60LP/35DF/5AF	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
149	3	2,3	3	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	663	N	50LP/40DF/ 10ES	0
150	15	2,3	15	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	470	N	90LP/10DF	0
151	25	2,3	25	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	720	N	65LP/20ES/ 10DF/5AF	0
152	115	2,3	115	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	Adv & NRG LP/DF/AS	LP	640	Y (2,3)	85LP/10DF/5AS	95
153	30	2,3	30	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	290	N	60LP/30AS/ 10DF	0
154	74	2,3	74	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	S	Adv & NRG LP/DF/AS	LP	323	N	85LP/10DF/5AS	95
155	40	2,3	40	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	281	N	50LP/40DF/ 10AS	0
156	10	2,3	10	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	50LP/35ES/ 10AF/5DF	0
157	6	2 3	6 0	T-1	Precommercial thinning	Precommercial Thin	T	N/A	ES	720	N	70ES/30LP	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
158	90	2 3	90 26	T-1	Regeneration Harvest	Clearcut with Leave Trees	T	Adv & NRG LP/DF/ES/SAF	LP	281	Y (2)	80LP/15ES/ 5DF, SAF	100
159	26	2,3	26	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	640	N	80LP/10ES/ 5DF/5AF	0
160	89	2,3	89	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	Adv & NRG LP/DF/ES/SAF	LP	470	Y (2,3)	90LP/5DF/ 5ES, SAF	85
161	10	2,3	10	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	250	N	80LP/10AF/5DF	0
162	10	2,3	10	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	250	N	85LP/10DF/5AF	0
163	10	2,3	10	T-1	Precommercial thinning	Precommercial Thin	T	N/A	LP	660	N	75LP/10DF/ 10AF/5ES	5
164	23	2,3	23	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	660	N	85LP/10ES/5DF	0
165	127	2 3	127 38	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T	Adv & NRG LP/DF/ES/SAF	LP	281	Y (2,3)	90LP/5DF/5ES	90
166	17	2,3	17	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	250	N	60LP/40DF	0

Unit ID	Acres	Alternative	Alternative Acres	MA	Treatment Type	Prescription	Log Sys	Regen	Forest Type	Habitat Type	>40 Acre Openings Alt)	Species Comp	% LP Mortality
167	254	2 3	254 0	T-1	Regeneration Harvest	Clearcut with Leave Trees, Jackpot Burn	T,S	Adv & NRG LP/DF/ES/SAF	LP	281	Y (2)	90LP/10ES, SAF, DF	95
168	18	2,3	18	T-1	Precommercial thinning	Precommercial Thin	N/A	N/A	LP	720	N	85LP/10DF/5ES	0
169		2 3	0 87	T-1	Prescribe Fire	Slashing, Broadcast Burn	N/A	LP	LP	670	N	80LP/20AF	90

Appendix B. Forestwide Standards, Forest Plan Consistency, and Management Area Direction

This appendix contains two tables. The first table displays the forestwide standards and forest plan consistency as it relates to this project. The second table displays the management area direction for the project.

Table B-1. Forestwide Standards and Forest Plan Consistency

Standard	If Standard applies, how is standard being met
Recreation	
1. New campgrounds and other developed recreation facilities, such as boat ramps or picnic areas, will generally not be constructed. Continue to maintain existing developed sites, but emphasize providing dispersed recreation opportunities. Removal of existing sites may be necessary, in some cases, due to site deterioration or excessive maintenance cost.	No new campgrounds or other developed recreation facilities are proposed with this project. The project area does not have any developed sites. Please refer to the Recreation Specialist Report for more information regarding recreation facilities/sites.
2. Encourage ski-touring trail development by locating and marking additional trails and by encouraging the private sector to develop trails.	Not applicable to the purpose and need for the project because no existing or proposed ski trails are located in the project area.
3. Complete a Recreation Opportunity Guide (ROG) for each Ranger District, to make recreation opportunities more visible to the public.	A Forest ROG was developed years ago but is no longer maintained. Recreation opportunities are currently posted on the Forest website.
4. A specific Continental Divide National Scenic Trail (CDNST) route will not be identified prior to approval of the comprehensive plan being prepared by the Forest Service and the Secretary of Agriculture's Advisory Council. Once the comprehensive plan is approved, the management direction will be incorporated further in this plan. Based on the Comprehensive Plan, a more detailed analysis will be completed to show trail segments, objectives and specific route locations. The legislation authorizing the CDNST specifically intended that the trail would not adversely affect or preclude the application of normal management practices on lands adjacent to or within the trail corridor (both public and private). It is not the intent of the legislation that a separate "management plan" be developed for the CDNST, but to provide for the development and management of the trail as a management practice which is integrated into the overall prescription for the land through which the trail passes.	The Helena National Forest has not developed and incorporated into the Helena National Forest Plan specific management direction for the CDNST. The action alternatives would have a minimal short-term impact on non-motorized recreation opportunities in the area. The proposed treatments do not conflict with existing recreation direction for the project area, including Forest Plan direction. The majority of the 13 miles of trail in the area runs through the T-1 management area, where the emphasis is on cost-effective timber production and a management goal is to provide healthy timber stands. Project activities may disrupt some uses of the trail during implementation; the length of this disruption would be short-term, however.
5. Emphasize "Pack-In Pack-Out" use in dispersed recreation areas and in wilderness to reduce resource impacts and management costs.	Not applicable to the Telegraph Vegetation Project, although this is done via Frontline and recreation Forest personnel.
6. Provide information to users of remote areas and wilderness about potential conflicts with humans and bears and proper camping methods to avoid such conflicts.	Not applicable to the Telegraph Vegetation Project, although this is done via Frontline and recreation Forest personnel.
7. Outfitter and guide use will generally be maintained at a level determined from the highest 2 years of actual use experienced during the period l979 through l983. Application for additional or new use will be considered on a case-by-case basis, with consideration of resource limitations and public need.	Not applicable to the Telegraph Vegetation Project, because no outfitter and guide usage is proposed for consideration with this project.

Standard	If Standard applies, how is standard being met
Visuals	
1. A visual quality objective (VQO) is stated for each management area. These visual quality objectives provide the guidelines for altering the landscape. Portions of each management area may have a more or less restrictive VQO. Appendix B lists roads, trails, campgrounds, etc., that are within sensitive viewing areas. The VQO for these areas is noted in Appendix B. The VQO's for the Continental Divide National Scenic Trail will be the same as the Management Areas through which the trail passes.	The VQO for Management Areas T-1 and L-1 generally allow for maximum modification. The VQO for Management Area T-5 generally allows for modification. The VQO for Management Area M-1 is generally retention. The VQO for Management Areas W-1 generally allows for partial retention. Highway 12 and the Cromwell-Dixon Campground are listed as Sensitivity Level 1 which calls for retention in the Foreground and partial retention in the Middle ground and Background. The proposed activities for Alternatives 2 and 3 would promote rehabilitation of the landscape improving natural visual characteristics in the long-term. Forest-wide standards for Insects and Disease provide direction to use silvicultural systems to: (1) improve species diversity and growth, and vigor for stands, and (2) increase the size diversity and class diversity between stands. The management activities proposed in this project are tools to rehabilitate the vegetative condition within the project area. Several large stands of dead trees would be removed, providing an opportunity to improve the species diversity, growth and vigor of the vegetation. The Visual Management System identifies rehabilitation as a short-term management alternative. “Landscape rehabilitation is used to restore landscapes containing undesirable visual impacts to a desired visual quality. It may not always be possible to immediately achieve the prescribed visual quality objective with rehabilitation, but is should provide a more visually desirable landscape in the interim” (USDA, 1974). The potential direct, indirect, and cumulative effects of the proposed activities to visual resources would be consistent with forest plan direction for visual resources because the application of the landscape rehabilitation management alternative as outlined in the VMS would allow a longer period of time for the retention VQO to be achieved. Refer to the Visuals/Scenery Specialist Report.

Standard	If Standard applies, how is standard being met
Cultural Resources	
1. The Forest will undertake a systematic program of cultural resource inventory, evaluation, and preservation aimed at the enhancement and protection of significant cultural resource values, as prescribed for Federal Agencies by Section 106 of the National Historic Preservation Act and 36 CFR 800. Cultural resource sites evaluated as significant will be preserved in place whenever possible. When such resources are threatened by project development, an effort to avoid or minimize adverse impact by project redesign will be made. When avoidance is judged by the Forest Supervisor to be imprudent or infeasible, the values of the site will be conserved through proper scientific excavation, recordation, analysis, and reporting. An inventory survey for cultural resources will be made for all significant ground-disturbing activities. Forest inventory efforts will be focused in three areas including: a. Areas where specific project activities, such as timber sales, road developments, range improvements, or mineral development activities, result in significant ground disturbance. b. Large areas where substantial development impact is anticipated, such as oil- and gas-planning areas. c. Areas where formal archaeological surveys may provide management data that are broadly applicable to ecologically similar areas and which will facilitate the development of predictive models capable of addressing issues of cultural site density, distribution, and significance. The Forest will encourage scientific research by privately funded universities as a means of acquiring additional inventory and interpretive data. Such projects will be coordinated with the State Historic Preservation Officer and the Advisory Council on Historic Preservation. Cultural resource site information is exempt from disclosure under the Freedom of Information Act. Following Forest Supervisor written approval, site location data may be released on a need-to-know basis to consultants, universities, or museums. Discovered cultural resources will be evaluated in relation to published Advisory Council on Historic Preservation (ACHP) criteria for eligibility to the National Register of Historic Places. Cultural resource sites determined eligible will be nominated to the National Register. The Forest will coordinate cultural resource issues and concerns with the appropriate Native American groups to ensure that Forest management activities are not detrimental to the protection and preservation of Native American religious and cultural sites, treaty rights, and religious and cultural practices. The Forest will enhance and interpret significant cultural sites for the education and enjoyment of the public when such development will not degrade the cultural property or conflict with other resource considerations. Known significant cultural resource sites on the Forest will be protected from inadvertent or intentional damage or destruction. Portions of the Lewis and Clark National Historic Trail are on the Helena Forest. Some interpretive signing has been placed along the trail. Normal management practices can still access land adjacent to or within the trail corridor, however, project activities will be conducted to minimize disturbance to the cultural site.	The requirement for cultural resource inventory in “areas where specific project activities ... result in significant ground disturbance” has been partially met by a series of previous investigations. Additional survey needs have been identified in this specialist’s report.The HNF routinely avoids all known cultural resources, eliminating the need for National Register evaluations. This specialist report identifies the avoidance measures that the HNF would implement to preclude the need for eligibility determinations. A Forest commitment to additional inventory and avoidance of all known cultural resources, and field monitoring of project progress, would satisfy basic clauses outlined in this Standard.

Standard	If Standard applies, how is standard being met
Wildlife and Fish Indicator Species	
1. Populations of wildlife "indicator species" will be monitored to measure the effect of management activities on representative wildlife habitats with the objective of ensuring that viable populations of existing native and desirable non-native plant and animal species are maintained. See Chapter IV, part D Monitoring and Evaluation for specific monitoring requirements. Indicator species have been identified for those species groups whose habitat is most likely to be changed by Forest management activities. The mature tree dependent group indicator species is the marten; the old growth dependent group is represented by the pileated woodpecker and the goshawks; the snag dependent species group is represented by the hairy woodpecker; the threatened and endangered species include grizzly bear, gray wolf, bald eagle and peregrine falcon; commonly hunted indicator species are elk, mule deer and bighorn sheep; fish indicator species is the cutthroat trout.	Westlslope cutthroat trout (WCT) are an indicator species. The Aquatic Species Report and Biological Evaluation for the Telegraph Vegetation Project would analyze and measures potential effects of the project this indicator species (westslope cutthroat trout). Monitoring element C7 focuses on pileated woodpeckers, among other species. Pileated woodpeckers were chosen as a management indicator species (MIS) because they were the largest primary excavator on the Helena National Forest. Pileated woodpeckers were also chosen as an MIS species because they have the most restrictive requirements in terms of snag size of any cavity nester on the Forest. *Forest Plan* Standards applicable to pileated woodpeckers are those that provide thresholds for snags. Out-year monitoring would occur in the project as part of *Forest Plan* monitoring specific to element C7. Monitoring element C7 focuses on northern goshawks, among other species. The northern goshawk was chosen as an MIS species for old growth due to the diverse prey base and nesting habitat commonly found in late-successional forests. Dispersion of late-successional habitat throughout the Forest was considered important for goshawks although recent science has shown that goshawks also make use of a wide variety of habitats so long as a diverse prey base is present along with mature trees for nesting. Out-year monitoring would occur in the project as part of *Forest Plan* monitoring specific to element C7. Monitoring element C7 focuses on hairy woodpeckers, among other species. Hairy woodpeckers have wide ecological amplitude in terms of nesting and foraging. Hairy woodpeckers are abundant across the Forest. *Forest Plan* Standards applicable to hairy woodpeckers are those that provide thresholds for snags. Out-year monitoring would occur in the project as part of *Forest Plan* monitoring specific to element C7. Monitoring element C8 focuses on martens. Martens were chosen as a management indicator species (MIS) because they are associated with mesic mature and late-successional forests. Specifically, they require at least 25% canopy cover and generally avoid large openings. Consequently, they are sensitive to management actions. Furthermore, because they are predators they are good indicators of ecosystem health due to their position on the food chain. According to the Forest Plan EIS, Appendix B (p. B/68), old growth requirements of the Forest Plan are intended to provide the minimum management requirements for several species including martens. *Forest Plan* Standards applicable to martens are those that provide thresholds for snags. Out-year monitoring would occur in the project as part of *Forest Plan* monitoring specific to element C8.

Standard	If Standard applies, how is standard being met
Big Game	
Big Game - 1. On important summer and winter range, adequate thermal and hiding cover will be maintained to support the habitat potential.	Thermal cover will be removed on elk winter range in order to meet the purpose and need of the project. A site-specific exemption to the standard would be required for either action alternative. Because this thermal cover will be lost by natural means in the next decade or so and because Alternatives 2 and 3 are not expected to negatively impact the elk population in HD 215, an exemption to the standard would be in order.
2. An environmental analysis for project work will include a cover analysis. The cover analysis should be done on a drainage or elk herd unit basis. (See Montana Cooperative Elk-Logging Study in Appendix C for recommendations and research findings on how to maintain adequate cover during project work.)	This standard is met. The cover analysis is completed at the elk herd unit scale. There are two herd units that overlap the project area: the Jericho and Spotted dog – Little Blackfoot herd units. Elk herd units were developed with Montana Department of Fish, Wildlife, and Parks. Refer to the Wildlife Specialist Report.
3. Subject to hydrologic and other resource constraints, elk summer range will be maintained at 35 percent or greater hiding cover and areas of winter range will be maintained at 25 percent or greater thermal cover in drainages or elk herd units.	Big game Standard 3 (HFP, p. II/17) requires that hiding cover on elk summer range be maintained at or above 35% (or, on in this case, 50% using the MFWP crown closure criterion). Hiding cover must be in blocks of at least 40 acres to be tallied as Forest Plan hiding cover. Both action alternatives would result in the reduction of hiding cover but not to the extent that the Jericho and Spotted dog – Little Blackfoot herd units would fall out of compliance. Standard 3 also requires that thermal cover on winter range be maintained at or about 25% in blocks of at least 15 acres. Under Alternative 1, the Jericho herd unit fails to meet the thermal portion of this standard. Alternatives 2 and 3 would further reduce thermal cover on winter range. A site-specific exemption to the standard would be required for either action alternative. Because this thermal cover will be lost by natural means in the next decade or so and because Alternatives 2 and 3 are not expected to negatively impact the elk population in HD 215, an exemption to the standard would be in order.

<table>
<tr><th>Standard</th><th>If Standard applies, how is standard being met</th></tr>
<tr><td>4. Implement an aggressive road management program to maintain or improve big game security. To decide which roads, trails, and areas should be restricted and opened, the Forest will use the following guidelines developed with the Montana Department of Fish, Wildlife, and Parks (MDFWP). The Forest visitor map will document the road management program.

4a. Road management will be implemented to at least maintain big game habitat capability and hunting opportunity. To provide for a first week bull elk harvest that does not exceed 40 percent of the total bull harvest, roads will be managed during the general big game hunting season to maintain open road densities with the following limits.

<table>
<tr><th>Existing Percent Hiding cover (according to FS definition of hiding cover) (1)</th><th>Existing Percent Hiding Cover (according to MDFWP definition of hiding cover) (2)</th><th>Max Open Road Density</th></tr>
<tr><td>56
49
42
35</td><td>80
70
60
50</td><td>2.4 mi/mi (2)
1.9 mi/mi (2)
1.2 mi/mi (2)
0.1 mi/mi (2)</td></tr>
<tr><td>(1) A timber stand which conceals 90 percent or more of a standing elk at 200 feet.</td><td>(2) A stand of coniferous trees having a crown closure of greater than 40 percent.</td><td></td></tr>
</table>

The existing hiding cover to open road density ratio should be determined over a large geographic area, such as a timber sale analysis area, a third order drainage, or an elk herd unit.</td><td>Big game Standard 4(a) (HFP, p. II/17-18) requires implementation of an aggressive road management program to maintain or improve big game security (habitat capability and hunting opportunity). Both herd units currently meet Standard 4a and would continue to do so under either action alternative.</td></tr>
<tr><td>4b. Elk calving grounds and nursery areas will be closed to motorized vehicles during peak use by elk. Calving is usually in late May through mid-June and nursery areas are used in late June through July.</td><td>Forest Plan Standard 4(b) requires that elk calving grounds and nursery areas be closed to motorized vehicles during peak use by elk. This is usually from late May through July. While the project area has not been mapped by MFWP or the Helena NF as a calving ground/nursery area, some calving probably occurs around the meadows and heads of drainages in the project area. Elk with calves probably remain in the general area during the nursing period. A number of roads in and around the project area have been open to public vehicles for several decades without problems for calf production and survival. The temporary roads planned for the project would not be open to public use. Project operations would not occur during the calving season. If nursery sites are discovered during the course of the project, operations would be modified to avoid the sensitive areas. Both action alternatives would be consistent with this standard.</td></tr>
<tr><td>4c. All winter range areas will be closed to vehicles between December 1 and May 15. Exceptions (i.e., access through the winter range to facilitate land management or public use activities on other lands) may be granted.</td><td>Forest Plan Standard 4(c) (HFP, p. II/18) requires that all winter ranges will be closed to vehicles between December 1 and May 15. Logging activities will be scheduled outside of the winter to address this standard.</td></tr>
</table>

Standard	If Standard applies, how is standard being met
4d. At restricted roads, trails, and areas, signs will be posted which tell: 1. Type of restriction. 2. Reason for restriction. 3. Time period of restriction. 4. Cooperating agencies.	This standard is met. All restricted roads, trails, and areas are posted and continually reposted with this information. All roads that are constructed as a part of the project will be posted with the appropriate restriction.
4e. Roads that will be closed will be signed during construction or reconstruction telling the closure date and the reason for closure.	Some roads will be closed temporarily during timber harvest to provide for safety of the public and crews. These roads will be signed and will provide the dates and reason for closure.
4f. Enforcement is a shared responsibility. Enforcement needs will be coordinated with the MDFWP.	This standard is met as enforcement is corrdiated with MDFWP.
4g. Opened Forest roads will normally have a designed speed of less than 15 miles per hour. Exact design speeds will be determined through project planning. Loop roads are not recommended and will be avoided in most cases.	This standard is met. No loop roads are proposed with this project.
4h. The Forest Road Management Program will be developed in conjunction with MDFWP and interested groups or individuals. The Road Management Program will contain the specific seasonal and yearlong road, trail, and area restrictions and will be based on the goals and objectives of the management areas in Chapter III of the Forest Plan.	This standard is not applicable because the Telegraph Vegetation Project does not propose any changes to the current Forest's road management program.
4i. Representatives from the Helena Forest and MDFWP will meet annually to review the existing Travel Plan.	This standard is not applicable because the Telegraph Vegetation Project does not propose any travel management changes. Annual meetings with MDFWP is out of the scope of the project, however, roads within the project area along with other forest roads will be reviewed annually with MDFWP.
5. On elk summer range the minimum size area for hiding cover will be 40 acres and the minimum size area on winter range for thermal cover will be l5 acres.	Thermal and hiding cover have been modeled according to the Criteria for Wildlife Models Helena National Forest that specifies patch size as 40 acres for hiding cover and 15 acres for thermal cover.
6. Montana Cooperative Elk-Logging Study Recommendations, in Appendix C, will be followed during timber sale and road construction projects.	Forest Plan Standard 6 (Forest Plan II/19 and C/1 -11) requires that the recommendations embodied in the Montana Cooperative Elk-Logging study (Appendix C of the Forest Plan) be followed during timber sale and road construction projects. There are a total of eleven recommendations some of which have been incorporated as design elements as previously described. The following discussion describes the project's consistency with each of the eleven recommendations. 1. Security during logging operations – The action alternatives are consistent with this recommendation. Design elements have been incorporated that confine logging to a single drainage at a time to

Standard	If Standard applies, how is standard being met
	minimize disturbance to elk. Also, logging activities will be completed in the shortest time frame possible. Use of firearms will be prohibited for anyone working within an area closed to the general public. 2. Redistribution of elk – The action alternatives are consistent with this recommendation which requires that timber sales be planned in a manner that does not redistribute elk onto adjacent or nearby property. Management challenges associated with HD 215 do include redistribution of elk to private land (MFWP 2005, pp. 190-193). The redistribution of elk that is currently occurring in HD 215 would not be exacerbated by the action alternatives. 3. Traditional home range use by elk – This recommendation is intended to ensure that timber harvest and road construction are planned to minimize impacts to elk and elk hunting. The action alternatives are consistent with this recommendation since all temporary roads will be closed to the public during logging operations and decommissioned post-implementation. 4. Road construction and design – This recommendation is intended to maintain the integrity of elk movement patterns and provide security for unimpeded movement. The action alternatives are consistent with this recommendation in so far as security either remains the same post-implementation, and all temporary roads will be closed to the public during implementation and decommissioned afterwards. There may be some temporary disruption to traditional movement patterns; however, ample blocks of unroaded areas exist that will provide alternative travel ways. 5. Road management – This recommendation is also intended to maintain elk security through management of road densities. Implementation of the action alternatives does not affect open road placement. 6. Area closures during the hunting season – This recommendation is intended to ensure that travel restrictions are carefully considered relative to elk management objectives so that hunting opportunities aren't unnecessarily impacted. This recommendation is not applicable to the Telegraph project. 7. Clearcuts – This recommendation is intended to ensure that forage produced through clear-cutting is available to elk. The action alternatives are consistent with these considerations since slash clean up inside clearcuts would be reduced to less than 1.5 feet and all temporary roads will be closed to the public.

Standard	If Standard applies, how is standard being met
	Openings would be generally less than 100 acres. However, in order to meet the purpose and need for the project, some treatment units are greater than 100 acres. This is to address the mortality in lodgepole pine stands associated with the mountain pine beetle. A site-specific amendment would be needed for either action alternative. 8. Cover type – This recommendation is intended to ensure that cover types, important to elk, are considered during planning and implementation of silvicultural practices. The action alternatives are consistent with this recommendation since cover type data are available Forestwide (via R1-VMap) and have been utilized for the Telegraph project to identify cover and forage. 9. Moist sites – This recommendation is intended to ensure that the integrity of moist sites is maintained since these areas comprise important components of elk habitat. Design elements have been developed to retain green trees, standing snags, and coarse woody debris in and around the fringes of those sites that occur in treatment units. This should preserve their utility for elk and other wide-ranging species as well as for smaller resident mammals, birds, and amphibians. 10. Elk/cattle relationships – This recommendation is intended to ensure that forage that may be created as a result of timber harvest remain available to elk. The action alternatives are consistent with this recommendation since cattle and elk currently comingle where they overlap. 11. Winter range – This recommendation states that timbered areas adjacent to primary winter foraging areas should be managed to maintain the integrity of cover and timber harvest should be scheduled outside of the winter period. There are some treatment units within which winter logging in winter range is proposed under both action alternatives. Implementation therefore would require a site-specific amendment to allow the project to proceed. As indicated, two of the 11 elk logging study recommendations would need a site-specific exemption in order for the project to proceed. Despite this amendment and its anticipated impacts to elk, elk populations within the project area and across the Forest as a whole should continue to remain robust. Elk are fairly resilient animals. Ernest Thompson Seton (as cited in RMEF 1997) postulated that 10 million elk lived in North America prior to European settlement. By 1907, there were less than 100,000. In Montana, elk were widely distributed during the era of exploration. As Montana was 'settled', elk began to decline were completely eliminated from eastern Montana by the early

Standard	If Standard applies, how is standard being met
	1900s. Today, elk are abundant; their ability to withstand near extirpation at the turn of the last century strongly suggests that they can withstand large openings in an otherwise dead forest and minor disturbances on winter range.
7. Inventorying and mapping important big game summer/fall and winter ranges will continue.	The Helena National Forest Wildlife Staff continue to work with Montana Fish, Wildlife, and Parks Area Biologist to update our big game range maps. Inventory is ongoing as part of project-level analyses.
8. Any proposed sagebrush reduction programs will be analyzed on a case-by-case basis for the possible impact on big game winter range.	This standard does not apply. The Telegraph Vegetation Project does not propose any reduction in sagebrush.
9. Occupied bighorn sheep and mountain goat range will be protected during resource activities. Project plans for livestock, timber, or other resource development will include stipulations to avoid or mitigate impacts on their range. Conflicts between livestock and these wildlife species will be resolved in favor of the big game.	This standard does not apply to the Telegraph Vegetation project as bighorn sheep and mountain goats are not present in the project area.
10. Moose habitat will be managed to provide adequate browse species diversity and quantity to support current moose populations.	Effects to moose are addressed through the discussion of effects to Riparian habitat. Treatments that mimic disturbance processes (as is the case of this project) in wetlands and riparian zones are important in maintaining species richness and diversity, both plant and animal.
Threatened and Endangered (T&E) Species	
1. A biological evaluation will be written for all projects that have potential to impact any T&E species or its habitat. All evaluations will address each projects potential to adversely modify a listed species habitat or behavior. If an adverse impact is determined, mitigation measures will be developed to avoid any adverse modification of a listed species habitat or behavior. If all possible mitigation measures do not result in a no effect determination, then informal and/or formal consultation with the U.S. Fish and Wildlife Service will be initiated.	A biological evaluation will be prepared for this project to assess impacts to both aquatic and terrestrial T&E species. Since mitigation measures do not result in a “no effect” determination, informal and/or formal consultation with the U.S. Fish and Wildlife Service will be initiated. The biological evaluation of terrestrial wildlife species for the Telegraph project occurs throughout the body of the wildlife report wherever the different species of concern are addressed. These include in detail 2 threatened species (lynx and grizzly bear) and one sensitive species (wolverine). The remaining species are either briefly discussed in the Topics not Analyzed in Detail section or are not present in the project area. Table 86 in the wildlife report summarizes the key aspects of the evaluation. No T&E plant species are known or suspected in the project area.

Standard	If Standard applies, how is standard being met
2. Grizzly bear -- Apply the guidelines in Appendix D to the Management Situation 1 and 2 (referred to essential and occupied prior to 1984) grizzly bear habitat on the Forest (see map in Appendix D). Initiate field studies in undesignated areas known to be used by grizzlies, to determine if the areas should be designated as grizzly habitat. Until sufficient evidence is available to determine the status of these areas, manage them according to Appendix E, Grizzly Management Guidelines Outside of Recovery Areas.	The project area is not in Management Situation 1 and 2. Therefore, this part of the standard does not apply to the Telegraph Vegetation project. At this time, the size of the local grizzly population is unknown and its status uncertain. All that can be said, based on field observations to this point, is the following: • Population density is very low (only 5 verified occurrences in the general area 2004-2012—although several additional observations are highly credible). • Reproduction is uncommon (4 reports of a sow with cubs since 1991). • The stability and persistence of the current population may be tenuous (since the presence of grizzlies may be indicative of a linkage zone with transient individuals rather than an incipient Biological Activity Center) (*HFP,* Appendix E). South of U.S. Highway 12, most observations have come from the upper reaches of the Little Blackfoot watershed and along the border between the Helena NF and the Beaverhead-Deerlodge NF (including the upper Cataract and Basin Creek drainages just to the south). The number of credible grizzly bear reports in these areas has been increasing in recent years as the population in the NCDE expands to the point that more bears are exploring new territory further to the south (J. Jonkel, personal communication, 2007). Be that as it may, recent monitoring efforts designed to identify individual grizzlies through DNA analysis of hair samples collected from rub trees (2009-2010) have yet to turn up any sign of the bears south of Highway 12—a further indication of their scarcity in this area. At this time, the project area is not considered a biological activity center (BAC) because the following criteria for a BAC have not been met: Observations [of grizzly bears] must include females with cubs or yearlings at least 5 or the 10 years.
3. In occupied grizzly habitat, to minimize man-caused mortality the open road density will not exceed the 1980 density of 0.55 miles per square mile, which was determined to have little effect on habitat capability.	This standard does not apply to the Telegraph Vegetation Project because the project area is outside occupied grizzly bear habitat as defined in the Helena National Forest Plan appendix D.
4. Research activity on grizzly bears or their habitat will be reviewed by the Research Subcommittee of the Interagency Grizzly Bear Committee.	Not applicable to the Telegraph Vegetation Project. The project area is outside grizzly bear recovery zone and mapped grizzly bear distribution zone.

Standard	If Standard applies, how is standard being met
5. Bald Eagle and Peregrine Falcon -- Continue working with the MDFWP, the USFWS, and the BLM to identify nesting and wintering areas. Identify nesting territories and roosting sites, and protect both from adverse habitat alteration. (Guidelines for how to identify bald eagle habitat are in the Wildlife Planning Records.) Powerlines constructed within bald eagle or peregrine falcon habitat will be designed to protect raptors from electrocution. See Appendix D for bald eagle and peregrine falcon habitat maps.	This standard is met because there are no known bald eagles and peregrine falcons nesting territories and/or roosting sites in the project area. Falcon eyries are located on high cliffs, often near water. Peregrine falcons were extirpated from the Divide landscape in the mid-20th century, and no new occupied eyries have been located in the landscape since the falcons have become re-established in and around the Helena NF (almost entirely in the Big Belt Range) in the early 1990s. No active bald eagle nests have been located on HNF lands in the Divide landscape since the rejuvenation of local eagle populations over the last 3 decades. All known nests near the landscape are in the Little Blackfoot drainage on private land to the west. Most resident eagles on the Forest are located along the Missouri River in the Big Belt Range and along the Big Blackfoot River.
6. Gray Wolf -- With the USFWS and MDFWP, investigate reported gray wolf observations to confirm or deny gray wolf presence. If presence of gray wolf is confirmed, determine if the habitat is necessary for the wolf's recovery. If the habitat is necessary, coordinate with the MDFWP and the USFWS to implement the Wolf Recovery Plan. See Appendix D for gray wolf habitat map.	Wolves have recently been delisted based on achievements of recovery goals. Wolves may occur in the project area and are analyzed in the Wildlife Specialist Report. This standard is not applicable because the wolf has been recovered.
7. No known threatened or endangered plants are on the Helena National Forest.	This standard is being met. No T&E plant species are known or suspected in the project area.
8. Species of Special Concern There are habitats on the Forest where the following species of special concern may be found (Plant Species of Special Concern, USDA-FS, l980) Lemhi penstemon (*Penstemon lemhiensis*), Howell's gumweed (*Grindelia howellii*), Missoula phlox (*Phlox missoulensis*), Cliff toothwort (*Cardamine rupicola*). Missoula phlox and cliff toothwort have been located on the Helena Forest. Other Plants that are termed rare have also been located on the Helena Forest. They are Klaus' bladderpod (*Lesquerella plausii*) and Long-styled thistle (*Cirsium longistylum*). Two additional rare plants, Moschatel (*Adoxa moschalellina*) and Lesser rushy milkvetch (*Astragalus connvallarius*) are believed to occur on the Helena Forest but currently have no occurrence records. If any of these species are verified on the Helena Forest, appropriate measures, pursuant to Section 7 of the Endangered Species Act, will be taken.	After completion of the Forest Plan in 1986, the Regional Forester designated sensitive plant species for Region 1 and has periodically updated the list. The current Region 1 sensitive species list was updated in 2011. Howell's gumweed (*Grindelia howellii*) and Missoula phlox (now called *Phlox kelseyi* var. *missoulensis* instead of *P. missoulensis*) are still designated sensitive species and are known or suspected to occur on the Helena National Forest. Lemhi penstemon (*Penstemon lemhiensis*) and moschatel (*Adoxa moschatellina*) are also currently sensitive species, but are not known to occur, nor are they suspected to occur, on the Helena National Forest. Cliff toothwort (*Cardamine rupicola*), Klaus' bladderpod (*Lesquerella klausii*), long-styled thistle (*Cirsium longistylum*), and rushy milkvetch (*Astragalus convallarius*) are not currently designated sensitive species for the Northern Region. The Forest Plan direction for Species of Special Concern is general, and updated Regional direction has been given concerning sensitive species, which includes Species of Special Concern.

Standard	If Standard applies, how is standard being met
Old Growth	
An old growth stand is generally characterized by a high level of standing and down, dead and rotting woody material; two or more levels of tree canopies and a high degree of decadence indicated by heart rot, mistletoe, dead or broken tree tops, and moss. Five percent of each third order drainage should be managed for old growth. The priority for old growth acres within each drainage is: first, land below 6,000 feet in elevation; second, riparian zones and mesic drainage heads; and third, management areas emphasizing wildlife habitat. These areas will normally be managed on a 240-year rotation and will range from 10 acres to several hundred acres. Management areas other than T-1 through T-5 will be the primary source for old growth. However, if adequate old growth area cannot be achieved then the T management areas will be considered to meet old growth objectives.	This standard applies and is being met with all Alternatives. Approximately 5 percent of each of the third order drainages associated with the project have been designated for old growth management. The designation protocol included consideration of all the priority criteria listed by this standard. No old growth would be treated with the action alternatives. Refer to the Habitats of Special Concern Report. Please also refer to the project file for detailed information regarding old growth designation protocols (USDA 2012c, HNF Old Growth Process).
Snags	
1. To keep an adequate snag resource (standing dead trees) through the planning horizon, snags should be managed at 70 percent of optimum (average of 2 snags/acre) within each third order drainage.	This standard applies and is met with all Alternatives. There would be snags well in excess of this level in each third order drainage. See Habitats of Special Concern Specialist Report.
2. Snag management guidelines need not be applied within a quarter mile of riparian areas, because riparian standards should provide for adequate snags.	This standard applies and is being met because riparian standards are being followed with all Alternatives.
3. Larch, ponderosa pine, Douglas-fir, spruce, and subalpine fir, in that priority, are the preferred species for snags and replacement trees (live trees left to replace existing snags).	This standard applies and is met, although very few snags of the priority species are available. Lodgepole is not specified as a desirable snag species. See Habitats of Special Concern Specialist Report.

Standard	If Standard applies, how is standard being met
4. Management areas other than T-1 should be the primary source for snag management. However, if adequate snags cannot be found outside of T-1, then the following numbers and sizes of snags should be retained in cutting units, if available. A. In units with snags, keep a minimum of 20 snags and 10 replacement trees per 10 acres, if available. If 20 snags are not available, then any combination totaling 30 should be left, by the following dbh classes: 13 snags and 6 replacement trees from 7-11 inches 5 snags and 3 replacement trees from 12-19 inches 2 snags and 1 replacement trees 20+ inches B. In units--except those of pure lodgepole--without snags keep a minimum of 30 wind firm trees per 10 acres, if available, by the following dbh classes: 21 trees from 7-11 inches 7 trees from 12-19 inches 2 trees from 20+ inches If wildlife funds are available, a third of the replacement trees should be girdled or otherwise killed to provide snags, by the following dbh classes: 7 trees from 7-11 inches dbh 2 trees from 12-19 inches dbh 1 tree from 20+ inches dbh	This standard applies and is being met with all Alternatives. No snags would be cut under the No Action with the exception of ongoing public firewood gathering. Snags are available across multiple management areas in the project area. In the Proposed Action, snags are primarily provided for outside of treatment units, although snag retention guidelines are prescribed. Also, replacement snags would be provided by green trees of species other than lodgepole that would be retained to the extent possible in regeneration harvest units; and to the desired density of generally the largest and healthiest trees available in intermediate harvest units. Refer to the Habitats of Special Concern Specialist Report.
Fisheries	
1. Maintain quality water and habitat for fish by coordinating Forest activities and by direct habitat improvement (see Forest Wide Standards for riparian).	Sediment impacts to fisheries under the action alternatives analyzed for this project would be limited to 3 - 5 years and will be partly offset through mitigation (road improvements and culvert replacement). A summary of project impacts is included in the Aquatic Species Report.
2. Instream activities should allow for maximum protection of spring and fall spawning habitats.	Standard would be met. Instream structures would be limited to existing culvert replacement. No new culverts will be installed as part of this project. BMPs would be in place to minimize impacts to and fish bearing habitat. A summary of design criteria and mitigation measures are included in the Assumptions section of the Aquatic Species Report.

Standard	If Standard applies, how is standard being met
3. Structures installed within streams supporting fisheries will be designed to allow upstream fish movement, especially to spawning areas.	Standard would be met. Instream structures would be limited to existing culvert replacement. No new culverts will be installed as part of this project. Several existing culverts will be replaced as part of this project. All new culverts will be designed to pass the 100-year flood and provide upstream fish movement. Three of the culverts will replace known barriers to fish movement. BMPs would be in place to minimize impacts to and fish bearing habitat. A summary of design criteria and mitigation measures are included in the Assumptions section of the Aquatic Species Report.
Range	
1. Riparian condition within livestock allotments will be mapped and become part of the Allotment Management Plan.	Standard does not apply to the Telegraph project.
2. Where analysis shows range resource damage, the cause will be identified and corrective action will be initiated through an allotment management plan.	Standard does not apply to the Telegraph project.
3. Chemical spraying should not be used on sagebrush control projects if other control methods are feasible.	Standard is being met. No chemical control of sagebrush is planned for the Telegraph project.
4. Best Management Practices (BMPs) will be used to minimize livestock damage to lakeside soils, streamsides, and other fragile areas.	Standard does not apply to the Telegraph project.
5. Allotment management plans will specify the utilization standards of key plant species needed to protect the soil and water quality. Allowable forage utilization of these plants should be based on local range conditions, soil stability, and known individual plant requirements. The guides for allowable utilization of key species, by condition classes, are in the Range Management Handbook (FSH 2209.21).	Standard does not apply to the Telegraph project. There is no suitable range in the project area.
6. Allotment Management Plans will be developed using the interdisciplinary process.	Standard does not apply.
Noxious Weeds	
1. Implement an integrated weed control program in cooperation with the state of Montana and County Weed Boards to confine present infestations and prevent establishing new areas of noxious weeds. Noxious weeds are listed in the Montana Weed Law and designated by County Weed Boards.	This project incorporates the Helena National Forest Weed Control program. The Helena National Forest Noxious Weed Vegetation Treatment Environmental Impact Statement (USDA Forest Service 2006b) is part of the project file. Addressed by unit and species in design criteria and mitigations.
2. Integrated Pest Management, which uses chemical, biological, and mechanical methods, will be the principal control method. Spot herbicide treatment of identified weeds will be emphasized. Biological control methods will be considered as they become available.	This analysis considers integrated pest management with the estimates of weed spread and control. The Helena National Forest Noxious Weed Vegetation Treatment Environmental Impact Statement (USDA Forest Service 2006b) is part of the project file. Addressed by unit and species in design criteria and mitigations.

Standard	If Standard applies, how is standard being met
3. Funding for weed control on disturbed sites will be provided by the resource which causes the disturbance.	This document is not the place to determine how funding will be provided.
Revegetation	
1. Seeding will be done in a timely manner on disturbed areas, to prevent erosion and to achieve best revegetation results.	Re-vegetation is built into the project as project design features.
2. Seeding mixtures of native plants (naturally occurring) should be used, if practical, in all revegetation projects greater than two acres. On smaller disturbances, the responsible official may authorize the use of exotic species.	Recommended certified weed seed free native seed mixtures are included.
3. Seeding guidelines, based on elevation, soil type, parent material, habitat type, and reasonable cost, are listed in Appendix F.	Recommended certified weed seed free native seed mixtures that meet the seeding guidelines are included.
Timber	
1. Silvicultural examinations and prescriptions will be required before any timber manipulation or silvicultural treatment takes place. Exceptions include cutting of trees that block vision along roads, cutting hazard trees, clearing right-of-way, clearing for mineral development, minor and incidental amounts of free use, and cutting personal firewood. Final determination of what silvicultural system will be used for a particular project will be made by a certified silviculturist after an on-the-ground site analysis. This site specific analysis will determine the appropriate even or un-even age silvicultural system that best meets the goals and objectives of the management area. Standards for applying all silvicultural systems, as well as supporting research references are in the Northern Region guide (June 10, 1983). In addition, broad guidelines are found in Appendix H and M. Even aged management methods will be used only where it is determined to be appropriate to meet objectives. Clearcutting will be used only where it is the optimum method.	The standard does not apply to the No Action alternative since no treatments would occur. The standard applies and is met with the Action Alternatives (Forested Vegetation Report). Site specific prescriptions would be completed by a certified silviculturist prior to implementation. Field visits, stand examinations, and FIA intensified grid plots have been conducted within the project area to inform the analysis. Where prescribed, clearcutting has been determined to be the optimum method based on extensive mountain pine beetle-caused tree mortality. Prescriptions utilize a variety of timber harvest and prescribed fire systems described in detail in the Forested Vegetation Specialist Report.
2. Tree improvement will be conducted in accordance with the current Regional and Forest level tree improvement plans.	Standard is met on the HNF but does not apply to this project – there are no tree improvement activities associated with the proposed action.
3. Transportation plans and logging systems must be designed jointly to provide for long-term stand management, with full consideration given to topography and slope, the overall economic efficiency of roading and yarding costs, and the needs of other resources.	This has been completed as part of the design of the proposed action and subsequent action alternatives. It is located in the project record.
4. Timber stand openings created by even-aged silvicultural systems will normally be 40 acres or less. Creation of larger openings will require a 60-day public review and Regional Forester approval. Exceptions are listed in the Northern Regional Guide.	The standard does not apply to the No Action Alternative, but does apply and is met by the Action Alternatives. Openings over 40 acres would be created but exceptions to the Regional Forester approval process apply due to insect-caused mortality. Refer to Forested Vegetation Specialist Report.

Standard	If Standard applies, how is standard being met
5. A feasibility analysis of each sale over one million board feet will be made to assure that it has been designed with the most cost-effective measure possible in keeping with environmental concerns. This analysis will examine strategic items in the sale design process to assure consideration of economic impacts of these items on the sale value. A cash flow analysis will be done to determine the viability of the sale with current market conditions. If anticipated costs are higher than predicted high bids, consider the following: a. Defer the sale until economic conditions would indicate receiving higher bids. b. Proceed to sell the timber and provide proper documentation that benefits, other than immediate monetary return from the timber, are of importance.	This has been completed and it is documented in the economic specialist report for the Telegraph Vegetation project. All alternatives appear to be financially feasible; however as forest products continue to deteriorate estimated values may continue to decline.
Firewood	
1. The Helena Forest will generally charge a fee for personal use firewood. The Regional Office will annually determine the fee. Designated free firewood areas will continue only as long as demand is less than supply.	Not applicable to the Telegraph Vegetation Project because the project does not have any free firewood areas.
2. Logging areas will be open to public firewood gathering after the sale is closed and prior to burning logging debris and closing roads, if wood is available and other resource values, such as wildlife snags, downed logs, and soils, can be protected.	This standard applies and is met. See chapter two of the DEIS, Design Elements Common to Action Alternatives 2 and 3.
3. Promote a green firewood program where desirable for resource management for both commercial and private firewood gatherers.	Not applicable to the Telegraph Vegetation Project because green firewood permits are not proposed.
4. The public will be informed of firewood gathering opportunities through the local media. Maps and directions to firewood gathering areas will be available at FS offices.	Map and directions to treatment units with firewood opportunities will be made available at Forest service offices.
5. Permits will be required whenever tractors, rubber-tired skidders, jammers, or other yarding equipment normally used by the logging industry are used for yarding firewood.	Not applicable to the Telegraph Vegetation Project because no equipment would be allowed for yarding firewood.
6. Providing firewood will be emphasized as a slash treatment method.	This standard applies and is met. See chapter two of the DEIS, Design Elements Common to Action Alternatives 2 and 3.
Water, Soil, and Air - Municipal Watershed Guidance	
1. Municipal watersheds will be managed under multiple-use concepts and direction. Management area guidelines will identify permissible land uses, restrictions on land uses, and special measures required to ensure a high quality and quantity municipal water supply. Presently, there are two municipal watersheds on the Forest, Tenmile and McClellan.	Not applicable to the Telegraph Vegetation project because there are no municipal watersheds located within the project area.
2. Design and implementation of projects within the watershed will be guided by FSM 2542.12, as well as specific management area standards and guidelines.	Not applicable to the Telegraph Vegetation project because there are no municipal watersheds located within the project area.

Standard	If Standard applies, how is standard being met
3. An environmental analysis will be prepared in coordination with the concerned municipality and the State Water Quality Bureau for each new project proposed within the municipal watershed which could potentially result in degradation of water quality.	Not applicable to the Telegraph Vegetation project because there are no municipal watersheds located within the project area.
4. Each project implemented in the municipal watersheds will have a designated Forest Service representative responsible for maintenance of water quality within appropriate state standards. Each contractor will designate a representative, who will normally be at the project site, with the authority to take whatever action necessary to remedy any situation which might result in violation of state water quality standards.	Not applicable to the Telegraph Vegetation project because there are no municipal watersheds located within the project area.
5. Plans and specifications for projects proposed for municipal watersheds will be coordinated with the municipality involved and submitted to the Montana State Department of Health and Environmental Sciences for review and approval as required by Montana Laws regarding public water supply as amended by Chapter No. 556, l979, 75-6-112.	Not applicable to the Telegraph Vegetation project because there are no municipal watersheds located within the project area.
General Watershed Guidance	
1. Coordination with the State of Montana, as required by the Clean Water Act (33 CFR §208), concerning stream channels and water quality protection.	This standard is met. A copy of the Telegraph Vegetation project DEIS has been sent to the State of Montana. Furthermore, all required state permits will be obtained during implementation of the project.
2. Watershed improvement projects will be identified, prioritized, and developed on a watershed basis (see Appendix T of the Forest Plan).	Watershed improvements are proposed under each alternative which potential benefits were analyzed at watershed scale.
3. A project which causes excessive water pollution, undesirable water yield, soil erosion, or site deterioration will be corrected where feasible, or the project will be re-evaluated or terminated.	Based on the analyses done in the Telegraph Vegetation Hydrology report to evaluate measurement indicators related to hydrology, the actions proposed under either Alternative 2 or Alternative 3 would not cause excessive water pollution, undesirable water yield, soil erosion or site deterioration.
4. Projects involving significant vegetation removal will, prior to including them on implementation schedules, require a watershed cumulative effects feasibility analysis to ensure that water yield or sediment will not increase beyond acceptable limits. The analysis will also identify opportunities, if any exist, for mitigating adverse effects on water-related beneficial uses.	This analysis has been performed and is documented. In short, water yield is not expected to increase since Alternative 2 and 3 consist of removing dead trees which do not transpire nor intercept as much water as living trees. The analysis also included modeling to predict sediment delivery associated with proposed treatments and temporary road construction. The project is predicted to have a net reduction in sediment delivery to stream channels, with improvements to haul roads reducing sediment.
5. Practices in the Soil and Water Conservation Practices Handbook (FSH 2509.22) developed cooperatively by the State Water Quality Agency and the Forest Service will be incorporated, where appropriate, into all land use and project plans as a principal mechanism for controlling non-point pollution sources and meeting soil, State water quality standards and other resource goals.	Design criteria (identified in the Telegraph Project Soils Specialist Report) include adherence to practices in the Soil and Water Conservation Practices Handbook (FSH 2509.22).

Standard	If Standard applies, how is standard being met
6. Water rights for non-consumptive water uses (instream flows) necessary to maintain fisheries habitat, recreational uses, or other beneficial water uses will be claimed for appropriate waterbodies and streams.	Not applicable to the Telegraph Vegetation project because non-consumptive water uses is not a part of the purpose and need for the project.
7. An environmental analysis, following the process in FSMs 2526 and 2527, will be made for all management actions planned for flood plains, wetlands, riparian areas, or bodies of water prior to implementation. This analysis will determine the short- and long-term adverse impacts and mitigating measures associated with the planned management actions.	This analysis is in the Hydrology report which determines the short- and long-term adverse impacts and mitigating measures associated with the planned management actions.
8. Water transmission lines, dams, and hydro-meteorological data sites will be maintained by the permittee in a safe and serviceable condition. Unsafe or unserviceable facilities will be repaired to approved engineering standards or removed from service.	Not applicable to the Telegraph Vegetation project because there are no water facilities or permittees located in the area that pertain to this project.
9. Activities that might affect the validity of data collected at hydro-meteorological data sites will be coordinated with the permittee or cooperating agency before implementation of the project.	Not applicable to the Telegraph Vegetation project because there are no water facilities or permittees located in the area that pertain to this project.
10. Applications for hydropower, water diversion, water storage, or other water-related facilities will be evaluated on a case-by-case basis. The applicant may be required to use private consultants or other personnel to make environmental studies needed by the Forest Service and/or state agencies for evaluation of the proposal. Close coordination and cooperation with other agencies where appropriate will be sought.	Not applicable to the Telegraph Vegetation project because there are no water facilities or permittees located in the area that pertain to this project.
11. Instream flows adequate to protect the aquatic environment will be maintained during any project which removes water from any stream.	Not applicable to the Telegraph Vegetation project because the project does not propose to remove water from any stream.
Airshed Guidance	
1. Management activities that affect air quality will comply with Federal and state standards and the Montana Cooperative Smoke Management Plan. (The Plan is part of Fire Planning Records.)	Implementation of the action alternative would be compliant with the Forest Plan because all prescribed fire operations must comply with Federal and State standards and the Montana Cooperative Smoke Management Plan.
2. Protect air quality by cooperating with Montana Air Quality Bureau in the Prevention of Significant Deterioration (PSD) program and State Implementation Plan (SIP).	Regardless of no action, any Forest Service treatments either ongoing or planned will be required to adhere to air quality standards and direction as outlined in the Forest Plan.
Soil Guidance	
1. In accordance with NFMA, RPA, and Multiple Use-Sustained Yield Act, all management activities will be planned to sustain site productivity. During project analysis, ground disturbing activities will be reviewed and needed mitigating actions prescribed.	The Telegraph Vegetation Project complies with Forest Plan soil guidance because effects from soil disturbance would not be an irreversible commitment of resources and thus would not cause permanent impairment of the productivity of the land in accordance with MUSY, RPA and NFMA. In addition, proposed ground disturbing activities have been reviewed for the Telegraph Vegetation Project and necessary design criteria have been prescribed.

Standard	If Standard applies, how is standard being met
2. Areas of decomposed granite soils will be identified and erosion control measures planned prior to any ground disturbing activities.	Granitic soils have been identified in the project area and the design criteria prescribed above have been prescribed to minimize erosion.
3. To reduce sedimentation associated with management activities, the highly sensitive granitic soils, which cover about 20 percent of the Forest, will have first priority for soil erosion control.	Granitic soils have been identified in the project area and the design criteria prescribed above have been prescribed to minimize erosion.
Minerals General	
1. The 1964 Wilderness Act stipulates that effective December 31, 1983, no further mineral entry would be permitted in existing wilderness areas. This includes leasing for oil and gas, applying for patent on existing claims, and staking new claims. However, citizens' rights to enter public land for prospecting or working valid existing claims are unchanged.	NA – Project area does not include wilderness
2. Areas withdrawn from mineral entry should be reevaluated every five years in accordance with Federal Land Policy and Management Act (FLPMA) to determine if the withdrawal is still necessary. (See Appendix Q.)	Standard being met because no areas are being withdrawn from mineral entry.
3. Access for development of locatable and leasable minerals will be allowed on a case-by-case basis. Access should be directed toward minimizing resource impacts and be coordinated with other land uses.	Standard being met because access is not being precluded in relation to this project.
Locatable Minerals	
1. Consistent with the Mining and Mineral Policy Act of 1970, continue to encourage the responsible development of mineral resources on National Forest lands. Concurrently, require mitigation measures to protect surface resources.	Standard being met because development of minerals is not being precluded in relation to this project.
2. Provide guidance to miners and prospectors for planning reclamation and to minimize environmental damage.	NA as project is not related to giving guidance to miners.
3. Increase I&I efforts through publicizing the appropriate laws, regulations, and policies, to reduce cases of non-compliance from lack of knowledge of mining rules.	NA as project is not related to giving guidance to miners.
4. Increase compliance inspections commensurate with mineral activities.	NA as project is not related to giving guidance to miners.
5. When every reasonable attempt has failed to correct mining operations that are unnecessarily or unreasonably causing or threatening to cause irreparable injury, loss, or damage to surface resources, the Forest Service will seek judicial relief.	NA as project would not interfere with regulation of mining operators.
6. Maintain a liaison with local mining industry and mining associations. Cooperate with Federal and State agencies which administer mineral laws.	NA as project would not interfere with regulation of mining operators.

Standard	If Standard applies, how is standard being met
7. Following mineral development the Forest Service will require reclamation of surface disturbance to prevent or control on- and off-site damage. Reclamation includes, but is not limited to: a. Control of erosion and landslides. b. Control of water runoff. c. Isolation, removal, or control of toxic materials. d. Reshaping and revegetation of disturbed areas. e. Rehabilitation of fisheries and wildlife habitat.	NA as project would not interfere with regulation of mining operators.
Saleable Minerals	
1. Common variety mineral permits will be considered on a case-by-case basis and will be issued only if consistent with the management area goals.	NA as project would not interfere with regulation of mining operators.
Leasable Minerals	
See ROD for Helena National Forest and Elkhorn Mountains Portion of the Deerlodge National Forest Oil and Gas Leasing EIS.	NA as project would not interfere with regulation of Oil and Gas leasing.

Standard	If Standard applies, how is standard being met
Seismic Exploration	
1. An environmental analysis will be completed for each application. A prospecting permit will be issued on a case by case basis and will contain stipulations designed to coordinate surface resource values. The following apply where appropriate: a. Water quality and quantity: Stipulations may be issued to limit activities within 100 feet of all streams, lakes, springs, and ponds. b. Threatened and endangered species habitat: Stipulations will be issued to protect threatened and endangered species by limiting activities during critical periods, and protecting important habitat elements. c. Nongame habitat: Stipulations may be used to limit surface use as a coordination and/or mitigation measure for species listed in State of Montana, Species of Special Interest and Concern. (The State species list is part of the Wildlife Planning Records.) d. Big game habitat: To protect key areas for big game (i.e., winter range, summer concentration habitats, calving areas, lambing areas, big game travel routes, etc.), stipulations may be used during critical periods. e. Archeological and Historic Resources: Proposed seismic survey work which may impact identified cultural and paleontological resources will be required to skip portions of the work or to relocate survey lines around known resource areas. Other resource threatening work will be required to fully comply with the Antiquities Act of 1906 and other related Acts pertaining to cultural resources. f. Special Uses, Leases, and Permits: To protect authorized special uses, leases, and permits, include stipulations to restrict occupancy by timing and location on a case-by-case basis. g. Fire: Seismic work during periods of high fire danger may not be allowed. To prevent wildfire, stipulations may be included to restrict timing and location of seismic operations. Stipulations may also be used to specify procedures and fire fighting equipment required by seismic crews. h. Land Stability and Erosion: Surface occupancy stipulations may be used to prohibit occupancy on lands subject to mass wasting and on slopes 60 percent and greater. i. Recreation: To accommodate concentrated recreational areas (i.e., picnic grounds and campgrounds), stipulations may be used to restrict seismic activities by location and timing.	NA as project would not interfere with regulation of seismic exploration operations.

Standard	If Standard applies, how is standard being met
Land Uses	
1. Approve special use permits only when they comply with the goals of the management area affected. Appendix O provides guidelines for special uses and subdivisions.	N/A–Project does not include the approval of special use permits
2. Enhance resource management by working with other agencies and landowners to develop and achieve common resource objectives.	Standard met through scoping and public comment period
3. The Forest will encourage governing entities to proceed with land use planning and zoning prior to subdivision development on lands adjacent to or within the Forest boundary.	N/A-Project does not include planning and zoning decisions
4. Developers should provide for all necessary services within the limits of the subdivision without infringing on adjacent National Forest lands. But National Forest lands adjacent to subdivisions can be used for services associated with primary access and/or primary utility corridors if these services cannot reasonably be incorporated within the subdivision, or on other adjacent or nearby properties not administered by the Forest Service.	N/A-Project does not involve subdivisions
5. The Forest Service will attempt to inform non-Federal landowners and land developers adjacent to the Forest of the management direction on the Forest land.	Standard met through open house, scoping, and public comment period
6. Adjacent private lands will not preclude multiple use management of lands administered by the Forest Service. But management of Forest Service land will be modified where appropriate and necessary to complement land uses on adjacent non-Federal property.	Standard met through the enhancement of the project area through treatment designed to restore the environment to historic conditions
7. When an environmental analysis for a proposed Forest project indicates that activities on adjacent land will require Forest Service management activities to be restricted to protect soil, water, and wildlife resources, the necessary restrictions will be determined. If no activity on Forest land is possible, the desired management will be scheduled for later decades when sufficient recovery has occurred on adjacent lands to permit the proposed activities on Forest Service land to continue. Exceptions to this policy will be considered on a case-by-case basis, when deferring management would result in adverse impacts to other Forest resources.	Standard met through design criteria and BMP implementation

Standard	If Standard applies, how is standard being met
Landownership Adjustment	
1. A landownership adjustment schedule for the Helena Forest will be developed using the following criteria: a. The priority for acquisition will be for lands with assessed high wildlife, recreation, and watershed values. Acquisition may entail purchase or donation of fee simple or partial interests, such as conservation and scenic easements, or exchange procedures. b. Emphasize acquisition of land and interests in land to allow access to all Helena National Forest lands. c. Emphasize acquisition of trailhead facilities and trail rights-of-ways, especially to wilderness and dispersed recreation areas. d. Consider disposal of tracts where past patenting has resulted in isolated, intermingled National Forest ownerships, such as at York, Rimini, and Unionville.	N/A-Project would not include acquisition or disposal of land.
Administration Facilities	
1. Provide a cost effective program of maintenance to necessary administrative facilities. This will protect the investment, provide for public and employee's health and safety in accordance with current building codes and standards, and present a neat, well kept appearance in harmony with its surroundings.	Not applicable to the Telegraph Vegetation Project because no administrative facilities are in the area, or impacted by any alternative.
2. Construct new administrative facilities to replace existing structures that are no longer cost effective to maintain or expand or are inadequate to serve the needs of resource management.	Not applicable because the Forest Service would not construct new facilities to replace existing structures as part of this project.
Roads	
1. Road construction and reconstruction will be the minimum density, cost, and standard necessary for the intended need, user safety, and resource protection.	The minimum road work is proposed to provide for safe access and product removal from the proposed timber units in the action alternatives. Alternative 3 was also developed to reduce the amount of road construction associated with temporary roads. Finally, stream crossing improvements are included in each action alternative to provide for improved resource protection and watershed conditions associated with reduction in sedimentation, aquatic organism passage, and accommodation of high stream flows.
2. Forest development roads will not be constructed without an approved Area Transportation Analysis. Other road construction will be evaluated on a case-by-case basis.	No new construction of permanent National Forest System roads is proposed under the action alternatives.

Standard	If Standard applies, how is standard being met
3. Forest Specialists representing soils, watershed, and fisheries shall identify potential soil erosion, water quality and fisheries problems and provide input to the development of road design standards. Mitigating measures which will be considered in developing these standards include but not limited to: a. Reestablishing vegetation on exposed soils. b. Protecting the road surface through surface stabilization techniques such as dust oil or gravel, especially on decomposed granitic soils. c. Preventing downslope movement of sediment with the use of slash windrows below the fill slopes near stream crossings, baled straw in ditches and catch basins at culvert inlets. d. Reducing soil disturbance in or near streams by diverting clear water around culvert installation sites, especially in important fisheries streams. e. Controlling the concentration of water flow by insloping, outsloping and using minimum grades at stream crossings.	Specific items included in this standard are addressed through referencing the soils, hydrology, aquatics and transportation reports for road construction, reconstruction and maintenance recommendations, this includes the decommissioning of temporary roads upon project completion.
4. Short-term local roads will be used for one time road access needs.	Temporary roads used for the Project action alternatives will meet this standard for short term local roads.
5. Coordinate transportation planning and road management with State and local agencies and owners of intermingled land.	There are several county and private roads identified as necessary for haul in the action alternatives. Coordination with these agencies and individuals is needed prior to use and haul, in accordance with the Forest Plan.
Road Management	
1. The Helena National Forest will generally be open to vehicles except for roads, trails, or areas which may be restricted. (See Forest Visitor Map for specific information.) The Forest Road Management Program will be used to review, evaluate, and implement the goals and standards of the management areas in the Forest Plan with regard to road, trail, and area wide motorized vehicle use.	No changes in existing travel management direction are proposed under the alternatives with respect to allowed uses and roads available for public use.

Standard	If Standard applies, how is standard being met
2. Road management decisions will be based on user needs, public safety, resource protection, and economics. Most existing roads will be left open. But most new roads will be closed, at least during critical periods for big game. The criteria to be used for road, trail, or area restrictions are as follows: a. Safety - Restrictions may be necessary to provide for safety of Forest users. b. Resource Protection - Unacceptable damage to soils, watershed, fish, wildlife, or historical/archaeological sites will be mitigated by road restrictions or other road management actions as necessary. Restrictions for wildlife reasons will be coordinated with the MDFWP. c. Economics - Restrictions will be considered if maintenance costs exceed benefits. d. Conflicting Use - Conflicts between user groups (especially motorized vs. non-motorized) may require restrictions. e. Facility Protection - Restrictions may be necessary to prevent damage to administrative sites, special use facilities, or other improvements. f. Public Support - Public concern may necessitate restricting or opening some roads, trails, or areas. g. Management Objectives - Road management will be used to achieve land management objectives.	No changes in existing travel management direction are proposed under the alternatives with respect to allowed uses and roads available for public use. All temporary roads constructed for this project would be closed to the public, only being used for administrative use only.
3. The travel restrictions will be reviewed annually and revised as necessary to meet the goals and objectives of the Forest Plan.	No changes in travel management direction are proposed under the alternatives with respect to allowed uses and roads available for public use, as the scope of the project is associated with implementing proposed vegetation treatments.
4. Enforcement of the Road Management Program will be a high priority. Weekend patrolling, signing, gating, obliterating unnecessary roads, and public education will be used to improve enforcement. Enforcement will be coordinated with the MDFWP and other State and local agencies.	No changes in travel management direction are proposed under the alternatives with respect to allowed uses and roads available for public use. Short-term delays and closures are planned in order to provide for public safety during implementation of the vegetation treatments and product haul associated with the action alternatives.
Road Maintenance	
1. Roads will be maintained in accordance with direction provided in FSH 7709.15 (Transportation System Maintenance Handbook) and will be at a level commensurate with the need for the following operational objectives: resource protection, road investment protection, user safety, user comfort, and travel efficiency.	Road maintenance and reconstruction in the action alternatives will be performed in accordance with the Forest Plan and the Montana and Region 1 BMPs.
2. Assigned maintenance levels will be reviewed annually and revised if management objectives change.	No changes in assigned maintenance levels are proposed in the alternatives.

Standard	If Standard applies, how is standard being met
3. A Forest Road Maintenance Schedule will be prepared annually and be responsive to the long term needs of the Forest Transportation System.	Not applicable to this project, though there are several roads proposed in the action alternatives for maintenance and reconstruction to accommodate safe product haul while providing for minimal negative resource impacts.
4. Forest specialists representing soils and watershed shall provide input to the road maintenance planning process to verify maintenance standards, identify rehabilitation needs, and designate roads which should be permanently closed for resource protection. Specialists will annually submit capital investment project proposals for major road reconstruction needs.	Forest Fisheries and Hydrology Specialists have identified potential soil erosion, water quality and fisheries problems and provided input to the development of road design standards. The Aquatic Species and Hydrology reports identify potential erosion, water quality and fisheries concerns and provide input to the development of road design standards. A summary of design criteria and mitigation measures are included in the Assumptions section of the Aquatic Species, Hydrology, and Soils reports. This report includes an analysis of existing roads that have been identified as sediment sources. Most of these sediment sources are being addressed through project-related road improvements. Fisheries and watershed specialists worked with the ID Team and transportation specialist to develop stream crossing improvements for inclusion in each action alternative. Once a decision is made, these sites could qualify for a number of supplemental funding opportunities. No improvements would occur under the no-action alternative.
Trails	
1. Trail management, such as trail standards, maintenance schedules, funding, trail use, construction, and reconstruction, will follow the guidance in Trails Management Handbook, FSH 2309.18.	Not applicable to the Telegraph Vegetation Project because no activities are proposed to existing trails under any Alternative.
2. Generally, trail maintenance work priorities will be established as follows: a. Priority 1. Activities to correct unsafe conditions relative to management objectives. b. Priority 2. Activities to minimize unacceptable resource and trail damage. c. Priority 3. Activities that restore the trail to planned design standards.	Not applicable to the Telegraph Vegetation Project because no activities are proposed to existing trails under any Alternative.
3. Trail construction/reconstruction will be designed and accomplished to be compatible with the recreation settings and management area goals.	Not applicable to the Telegraph Vegetation Project because no activities are proposed for new trail construction or to existing trails under any Alternative.
4. Trails may be abandoned or rerouted when a road changes the character of the trail or when the maintenance cost exceeds the benefit.	Not applicable to the Telegraph Vegetation Project because no existing trails are proposed to be abandoned or re-routed.

Standard	If Standard applies, how is standard being met
Protection - Insect and Disease	
1. Silvicultural systems will be the primary tool for preventative pest management. Use silvicultural systems to: (1) improve species diversity, growth, and vigor for stands and (2) increase the size diversity and class diversity between stands.	This standard does not apply to the No Action Alternative because no treatments would occur. The standard applies and is met for the Action Alternatives because treatments would occur that remove trees impacted by the beetle outbreak, and promote growth and vigor of future forests. See Forested Vegetation specialist report.
2. During ongoing infestations, control insects and disease through silvicultural and biological practices. Chemical controls will be limited to high value areas or used on a broader scale only when all other measures have failed and other resource values can be protected. Emphasize cooperative control measures between Federal, State, and private landowners.	The standard applies and is met for the Action Alternatives because the proposed silvicultural treatments address the mountain pine beetle infestation. No chemical treatments are proposed. The No Action alternative does not employ any of these techniques. Refer to the Forested Vegetation specialist report.
3. Biological practices will be considered in controlling insect and disease infestations.	The standard does not apply. There are no feasible biological practices for the control of mountain pine beetle.
4. If possible, harvest stands which are a high risk for mountain pine beetle attack before harvesting moderate or low risk stands.	This standard does not apply because no high-risk stands remain unaffected by mountain pine beetle. See Forested Vegetation Specialist Report.
Protection - Wildfire	
1. The appropriate suppression response(s) is discussed by management area. See Table I in Appendix R, Fire Management, for suppression summaries.	Fire suppression strategies and tactics for all fire starts (appropriate management response) are based on firefighter and public safety, fire location, access, barriers to fire spread, threatened infrastructure, current and forecasted weather, available resources, vegetation conditions, and management area direction. This area is currently listed as a Fire Management Unit (FMU) 2 within the Helena National Forest Fire Management Plan. For the majority of fires in FMU2, routinely consider managing unplanned ignitions to meet resource and human value protection objectives. In all cases, provide for firefighter and public safety at all times. Where FMU2 overlaps with Wildland Urban Interface (WUI) consider control and contain strategies to minimize risk to life and property. (Helena National Forest Fire Management Plan 2013 - 3.2.2B FMU2 Guidance) However, with the close proximity to the upper Tenmile watershed and current fuel conditions in the project area, expected suppression method call for rapid response and aggressive suppression strategies. The suppression methods and management of this area will not change with either alternative.

Standard	If Standard applies, how is standard being met
2. Locate timber sales, or cutting units within a sale, to break-up contiguous natural fuel.	The proposed mechanical and prescribed burn treatments would reduce existing surface fuel loading levels and break up contiguous vegetation to create landscape patterns that alter fire spread. Treated areas, in general, would provide places where firefighters can more safely and effectively perform suppression actions thereby limiting the potential for high-intensity fire to spread within and towards the WUI or the Tenmile watershed.
Protection - Law Enforcement	
1. Law enforcement agreements will be maintained with cooperating counties.	Not applicable to the Telegraph Vegetation Project because this standard is outside the scope of activities being proposed.
2. Each Ranger District should maintain at least one employee qualified in advanced law enforcement (Level III).	Not applicable to the Telegraph Vegetation Project because this standard is outside the scope of activities being proposed.
3. Across the Forest, two full-range law enforcement positions (Level IV) should be maintained.	Not applicable to the Telegraph Vegetation Project because this standard is outside the scope of activities being proposed.
Prescribed Fire – General	
1. A burning schedule and specific objectives should be completed for each project.	A detailed silvicultural prescription will be completed for each treatment unit prior to implementation which will be carried through into the prescribed fire burn plan and prescribed fire parameters.
2. The burning prescription should be plant specific (i.e., burning may set back such species as bitterbrush and Idaho or rough fescue, if done with insufficient soil moisture or when "greening up").	A detailed silvicultural prescription will be completed for each treatment unit prior to implementation which will be carried through into the prescribed fire burn plan and prescribed fire parameters.
3. Prescribed burning should not exceed the natural fire frequency of the Fire Group.	Current 69% of the project is within a moderate departure rating, with current proposed treatments prescribed burning would not exceed the natural fire frequency.
4. Use prescribed fire only during periods of adequate smoke dispersal and in areas where water quality can be adequately maintained.	Approval for implementation of the prescribed fire burn plan will be obtained through Montana/Idaho Airshed Management System, as well as having State and County permits in place prior to ignition.
5. The Helena National Forest Soil Survey will be used to assist with individual site selection, to avoid potential soil and/or watershed degradation.	For all planned broadcast burn units, field evaluations will be completed to determine DSD from harvest activities. This site visit will determine the burn prescription specific to burn severity to soil. All prescriptions will be design to minimize DSD and meet Regional Standards.

Standard	If Standard applies, how is standard being met
6. Smoke sensitive areas will be identified and burning prescriptions developed accordingly.	All Class I Airsheds and sensitive receptors have been identified within 60 kilometer radius around the project area and will be carried forward into the prescribed fire burn plans. Prior to ignition County Health Services for both Lewis & Clark and Powell Counties will be notified of predicted impact areas so they can notify sensitive receptors within the area.
7. The MDFWP should be invited to participate in selecting treatment sites, executing burning plans, and monitoring and evaluating the overall program.	MDFWP will be on the burn plan contact list.
Prescribed Fire - Timber	
1. Where timber production is a primary land use, prescribed burning will only be applied where timber production can be maintained or enhanced by burning.	No burning is proposed with No Action, but the standard applies to the Action Alternatives and is met. Burning would primarily occur after harvest, in part to promote desirable regeneration. Burning without harvest would occur on roughly 655 acres in T-1. This burning would be designed to not preclude natural regeneration and future timber production. See Forested Vegetation Specialist Report.
2. Prescribed fire, when used as a fuels management or site preparation technique after harvest, should be coordinated with the timber stand's silvicultural prescription.	Standard does not apply to No Action, but does apply to the Action Alternatives and is met. Burning would be incorporated into silvicultural prescriptions. Refer to Forested Vegetation Specialist Report.
Prescribed Fire - Range and Wildlife	
1. Areas that have a demonstrated need to maintain or increase forage because of conifer encroachment, shrub invasion, and imbalance in forb/grass ratios, and/or where grass and shrubs are deteriorating should be recommended for prescribed burning.	A rangeland management specialist was part of the planning team for this project. The needs for the range resource were brought forward in the range report.
2. Where livestock and wildlife share sagebrush areas, prescribed fire will be designed to produce a mosaic of burned and unburned islands.	Prescribed fire is primarily focused in timber stands. The prescription for any sagebrush stands with the RX units will have a low severity prescription.
3. Just prior to and following a prescribed burn on grassland, livestock use should be withheld to ensure that adequate fine fuels are available for burning and to prevent overuse of new growth.	The design criterial addresses this. Fuels and range will work together during the planning process of the prescribed fire to plan management in pre and post fire.

Standard	If Standard applies, how is standard being met
Riparian	
1. Riparian areas will be delineated prior to implementing any management activities. Riparian areas include: a. Aquatic ecosystems (water, streambed, banks) b. Floodplains c. Riparian ecosystems (area dominated by riparian vegetation) d. One hundred feet from edges of all perennial streams, lakes, and other water bodies, including a, b, and c above.	Standard would be met. Field crews have conducted surveys throughout the project area and mapped aquatic ecosystems where they existed. Ignition buffers would be implemented and SMZ and RHCA regulations would be followed. A summary of design criteria and mitigation measures are included in the Assumptions section of the Aquatic Species and Hydrology reports.
2. Discourage concentrated use, such as campsites and roads, in riparian areas. Close wet meadows and wet areas to nonsnow ORVs.	This standard would be met because the Telegraph Vegetation Project does not propose any concentrated use or further development of campsites and roads in riparian areas. Furthermore, various watershed improvements are proposed under each action alternative including decommissioning of roads with 150 feet of streams.
3. Identify, prioritize, and develop riparian area rehabilitation projects by watershed.	Not applicable to the Telegraph Vegetation project because this is not a riparian area rehabilitation project.
4. Roads should not be constructed in the riparian area except to cross them. Use the appropriate soil and water conservation practices to minimize sedimentation during instream construction activities and include them in road construction contracts.	Standard would be met. Proposed temporary roads are generally in upland locations that would likely not pose a risk of sediment delivery to streams. There are no proposed road/stream crossings associated with temporary roads. BMPs would be in place to minimize impacts to riparian and fish bearing habitat. A summary of design criteria, BMPs and mitigation measures are included in the Assumptions section of the Aquatic Species, Hydrology, and Roads reports.
5. Assure that road construction in riparian areas is substantially completed or winterized during winter shut down to minimize peak flow sediment yield during spring thaw.	Standard would be met. No road construction would occur in riparian areas.
6. Generally, avoid lateral fills within normal high water marks.	This standard would be met. Lateral fills within normal high water marks are not expected as a result of the Telegraph Vegetation project.
7. Generally, avoid stream course encroachment and channelization.	This standard would be met. Stream course encroachment and channelization are not expected as a result of the Telegraph Vegetation project.
8. Use of chemicals within the riparian area will be minimized to the extent feasible, will be coordinated with wildlife, watershed, and fisheries personnel and a certified pesticide applicator.	This standard would be met. Each resource specialist provides guidance on the use of chemicals which includes the coordination with other resource staffs.

Standard	If Standard applies, how is standard being met
9. Riparian areas will be managed to be compatible with dependent wildlife species.	This standard would be met. The Aquatic Organisms and Wildlife reports for the Telegraph Vegetation Project provide analysis information on riparian dependent species. Additionally, the design criterion for the project is specific to tree removal within the RHCA's.
10. The timing and type of machinery used in riparian areas should be planned to minimize site damage.	The Hydrology specialist report includes a discussion of restrictions on equipment and activities in riparian areas developed in consultation with the silviculturalist specialist.
11. Provide vegetative cover adjacent to streams to serve as a filter strip for sediment and maintain optimum water temperatures, as well as provide large debris for long-term instream fish cover and pooling. Where vegetative manipulation is possible, the activities will strive to achieve a balance of age classes and desired species composition.	This standard would be met. Additionally, the design criterion for the project is specific to tree removal within the riparian areas.
12. Provide for stream crossing structure design that allows free water flow and fish passage.	Standard would be met. Culverts in the project area and a long haul routes have been analyzed with culvert nomographs to identify which culverts may be under capacity. The project would upgrade several culverts in the project area. Replacement culverts will be designed in accordance with forest-wide standards.
13. Emphasize off-stream watering in range allotments to prevent damage to the riparian area.	Not applicable to the Telegraph Vegetation project because the project does not propose any changes to livestock watering methods.

Standard	If Standard applies, how is standard being met
14. Livestock grazing in riparian areas will be controlled at the following levels of utilization:	Not applicable to the Telegraph Vegetation project because project proposals do not affect the levels at which livestock graze in riparian areas.

Vegetative Type	Grazing Systems	Vegetative Condition Class	Forage Utilization by Weight	Browse Utilization by % of Leader Use
Grasslands/	Continuous	Good	5%	N.A.
Grass-like/Forb		Fair	5%	N.A.
		Poor	20%	N.A.
	Rest-	Heavy Use		
	Rotation	Pasture 1/	60%	N.A.
		Light Use		
		Pasture	5%	N.A.
	Defer-	Heavy Use		
	Rotation	Pasture	50%	N.A.
		Light Use		
		Pasture	40%	N.A.
Willow/	Continuous	Good	55%	50%
Grass/		Fair	5%	50%
Grass-like		Poor	5%	50%
and Willow/	Rest-	Heavy Use		
Forest	Rotation	Pasture 2/	70%	50%
		Light Use		
		Pasture	50%	50%
	Defer-Rotation	Heavy Use		
		Pasture	60%	50%
		Light Use		
		Pasture	5	50%

[1/] Trampled areas and streambank damage caused during heavy use year should be healed or stabilized with the following year.
[2/] Disturbance on heavy use pasture should be stabilized or healed prior to use the following year.

Table B-2. Management Area Direction and Acres

Management Standards	If Standard applies, how is standard being met
Management Area M-1	
Description: These areas are nonforest and forested land where timber management and range or wildlife habitat improvements are currently uneconomical or environmentally infeasible. The area is scattered throughout the Forest and is found at all elevations and slopes ranging from 10 percent to over 60 percent. The parcels range in size from 20 to 500 acres.	**Management Goal** - Maintain the present condition with minimal investment for resource activities, while protecting the basic soil, water, and wildlife resources.
Recreation - Dispersed recreation can be supported by constructing trails, trailhead facilities, and sanitation facilities.	Not applicable because the Telegraph Vegetation Project does not propose the construction of trails, trailhead facilities, and sanitation facilities.
Visual - Because of the lack of activity, the general visual quality objective (VQO) is retention. Less restrictive VQOs may be considered on a case-by-case basis, if project level planning on an adjacent management area affects a M-1 management area. [See Forest Landscape Management Book, Vol. 2 (Ag. Hdbk. No. 462) for definitions of VQOs and how they are applied.]	The potential direct, indirect, and cumulative effects of the proposed activities to visual resources would be consistent with forest plan direction for visual resources because the application of the landscape rehabilitation management alternative as outlined in the VMS would allow a longer period of time for the retention VQO to be achieved.
Wildlife and Fisheries - Management practices to maintain or improve wildlife habitat will be permitted where necessary to meet the objectives of adjacent management areas.	Management activities designed to benefit wildlife habitat and fisheries habitat meet the objectives of adjacent management areas. This standard is met.
Range - Livestock use may remain at the 1983 level if the area is within existing allotments. Maintain range improvements and build new improvements, if they are needed to facilitate management of adjacent areas.	Not applicable because the Telegraph Vegetation Project does not propose any changes to livestock use within the project area.
Timber - Timber harvest, such as salvage and firewood removal, may occur where access exists. Slash created by any management practice will be disposed of in a manner consistent with the management area goals. Forested lands are classified as unsuitable for timber management.	This standard applies and is met. In the Action Alternatives, the units to be treated are proposed for pre-commercial thinning or harvest where access exists and slash disposed of through whole tree yarding, burning, and/or scattering. Prescribed fire alone would also occur in this management area.
Facilities - Roads will be allowed for special uses, mineral development, or to provide access to other management areas, consistent with protection of soil and water values. Roads may be opened or closed, depending on the objectives of the adjacent management areas. - Existing roads and trails will be maintained as needed.	Existing roads would be maintained or reconstructed for implementation under the action alternatives.
Minerals – See Forest Plan Amendment #13 for lease standards.	Not applicable to the Telegraph Vegetation Project as no current oil and gas leases exist within the project vicinity.

Management Standards	If Standard applies, how is standard being met
Protection - Salvage of dead, dying, or high-hazard trees is permitted to prevent disease and insect population build-up. - The appropriate fire suppression response ranges from control to confinement depending upon location, expected fire behavior, and other decision criteria related to values at risk. These criteria are stated in the Fire Management Direction in Appendix R. - Prescribed fire with planned ignitions may be used in this management area, for the enhancement and maintenance of resources. - Prescribed fire with unplanned ignitions may be used in this management area, for the enhancement and maintenance of resources, when within preestablished prescribed fire criteria. These criteria are stated in the Fire Management Direction in Appendix R. -Evaluate areas periodically for significant insect and disease problems. Endemic levels will be accepted as normal. If epidemic levels develop and control is necessary, the control method should minimize impacts on watershed and other resource values.	This standard applies and is met. Part of the purpose and need for this project includes salvage of insect-killed trees, establishing desirable regeneration, and improving forest health to be more resistant and resilient to bark beetle activity in the future. Insect-killed and currently infested trees are proposed for removal in harvest units with all Action Alternatives.
Management Area L-1	
Description: These lands are within grazing allotments and are generally nonforested consisting of bunchgrasses, sage and other shrubs or sparsely forested areas with Douglas fir or ponderosa pine as the dominant species. Slopes vary from 10 percent to greater than 60. This management area contains inclusions of elk calving areas, hiding cover, and summer range, but excludes identified elk winter range.	**Management Goals -** Maintain or improve vegetative conditions and livestock forage productivity. Optimize livestock production through intensive grazing systems, while maintaining other resource uses.
Recreation - Motorized and nonmotorized dispersed recreation activities are permitted and may be encouraged by constructing or maintaining trails and trailhead facilities. Existing trails and facilities will be maintained, unless they are no longer needed. - Controls on motorized recreation will be implemented where necessary to protect the vegetation, soil, water, and wildlife resources and to prevent road damage.	Not applicable to the Telegraph Vegetation Project because there are no proposals that change the travel management status, constructs, or maintains trails.
Visual - Management practices will generally follow guidelines for the maximum modification VQO. The portions of this area (if any) that are within the sensitive viewing areas of the roads, trails, and areas listed in Appendix B will be managed to meet the more restrictive VQOs noted in the appendix. [See Forest Landscape Management Book, Vol. 2 (Ag. Hdbk. No. 462) for definitions of VQOs and how they are applied.]	The potential direct, indirect, and cumulative effects of the proposed activities to visual resources would be consistent with forest plan direction for visual resources because the application of the landscape rehabilitation management alternative as outlined in the VMS would allow a longer period of time for the retention VQO to be achieved.
Wildlife and Fisheries - Specific wildlife and fisheries needs will be identified and considered when developing allotment management plans, provided the needs are compatible with area goals. - Habitat improvement projects will be scheduled when they would help achieve the area goals.	This standard does not apply to the Telegraph Vegetation Project because there are no treatments proposed in MA L-1.

Management Standards	If Standard applies, how is standard being met
Range - Livestock grazing will generally be maintained at or above 1983 levels, unless a range analysis or monitoring indicates there is a need to change. - Vacant allotments will be restocked if a range analysis shows it to be feasible and a demand exists for additional AUMs. - Intensive management systems will be implemented, where cost-effective, to sustain forage production. Management systems will be designed to minimize conflicts with wildlife. - Forage improvement projects such as sagebrush burning, tree encroachment burning, and noxious plant control will be carried out on a scheduled basis. The schedule will be developed as part of the allotment management plans. - Improvements, such as cattleguards, fences, and watering facilities, will be maintained and reconstructed as needed to continue present levels of grazing. New improvements may be constructed if the need is identified in an approved allotment management plan.	Not applicable because the Telegraph Vegetation Project does not propose any changes to livestock use within the project area.
Timber - Timber harvest may be used as a tool to improve forage production. However, forested land is classified as unsuitable for timber management.	No harvest treatments are proposed in L-1 under any Alternative.
Water and Soils – See Forest-Wide Standards.	
Minerals -See Forest Plan Amendment #13 for lease standards.	Not applicable to the Telegraph Vegetation Project as no current oil and gas leases exist within the project vicinity.
Lands – See Forest-Wide Standards.	
Facilities - Roads normally will not be constructed for range management activities, but may be constructed for other activities, such as mining, or to provide access to adjacent management areas. When an existing barrier is intersected, the necessary structures to prevent cattle drift (fences, gates, cattleguards, etc.) will be installed during road construction. - Where existing trails are intersected by new road construction, the trail will be evaluated to determine if it should be retained on the system or abandoned.	No road construction is proposed under the project alternatives within MA L-1.

Management Standards	If Standard applies, how is standard being met
Protection - Use prescribed fire as a tool to increase the quality and quantity of forage. - The appropriate fire suppression response ranges from control to confinement depending upon location, expected fire behavior, and other decision logic criteria related to values at risk. These decision criteria are stated in the Fire Management Direction in Appendix R. - Prescribed fire with planned ignitions will be used in this management area, for the enhancement and maintenance of resources. - Prescribed fire with unplanned ignitions may be used in this management area, for the enhancement and maintenance of resources, when within pre-established prescribed fire criteria. These criteria are detailed in the Fire Management Direction in Appendix R.	No treatments are proposed in L-1 under any Alternative.
Riparian - See Forest-Wide Standards.	Included in Forest-wide Standards
Management Area T1	
Description - This management area consists of lands available and suitable for timber management with varying physical and biological environments as determined by soil, slope, aspect, elevation, and climatic factors. Vegetation varies from ponderosa pine on the drier sites to spruce in the more mesic sites with nearly all slopes and aspects represented. Although this area consists primarily of suitable forest land, there are inclusions of nonforest and nonproductive forest lands. This area includes some small ponds and marshes which are considered unique to this part of Montana.	**Management Goals -** Provide healthy timber stands and optimize timber growing potential over the planning horizon. Emphasize cost-effective timber production, while protecting the soil productivity. Maintain water quality and stream bank stability. Provide for dispersed recreation opportunities, wildlife habitat, and livestock use, when consistent with the timber management goals.
Recreation - Motorized and nonmotorized dispersed recreation activities are permitted and may be supported by constructing or maintaining trails and trailhead facilities. Existing trails and facilities will be maintained unless they are no longer needed. - Controls on motorized recreation will be implemented where necessary, to protect the vegetation, soil, and water resources and to prevent road damage.	Motorized and non-motorized dispersed recreation activities would still be permitted with this project. However, short term traffic delays and limited access to parts of the project are maybe needed for safety during project implementation.
Visual - Management practices will generally follow guidelines for the maximum modification VQO. The portions of this area (if any) that are within the sensitive viewing areas of the roads, trails, and areas listed in Appendix B will be managed to meet more restrictive VQOs noted in the appendix. [See Forest Management Book, Vol. 2 (Ag. Hdbk, No. 462) for definitions of VQOs and how they are applied.]	The potential direct, indirect, and cumulative effects of the proposed activities to visual resources would be consistent with forest plan direction for visual resources because the application of the landscape rehabilitation management alternative as outlined in the VMS would allow a longer period of time for the retention VQO to be achieved.
Wildlife and Fisheries - Wildlife and fisheries habitat improvement projects may be implemented, provided they are compatible with the management area goals. - Forest-Wide Standards and Appendix D contain guidance for T&E species habitat.	Wildlife and fisheries habitat improvements as a result of proposed treatments in this MA have been identified. Refer to the Wildlife and Aquatic Specifies Specialist Reports. Refer to the T&E section under Forest-Wide Standards for more information. This standard is met.

Management Standards	If Standard applies, how is standard being met
Range - Livestock grazing is compatible, except where it conflicts with stand establishment. Fencing, temporary herding, or other techniques may be used to protect regeneration where needed. - Pasture and allotment boundaries should be maintained during and following timber harvest. This may require additional fencing, where natural barriers are breached by timber sale activities. - Livestock grazing will be maintained at the 1983 levels within existing allotments, however, the level may be increased or decreased if monitoring or range analysis shows a need or opportunity to change.	This standard applies and is met. The design criterion for the project incorporates this standard.
Timber - This management area is suitable for timber management activities. - Timber harvest practices include clearcut, group selection, and shelterwood harvest, depending on habitat group, physical site conditions, and silvicultural objectives. Precommercial thinning and intermediate harvest may occur where needed as determined by silvicultural objectives and project planning. (Appendises H and M provide broad guidelines for various habitat groups.) - As a minimum, a cutover area will not be considered an opening when: (1) a new forest stand is established and certified as stocked, and (2) vegetative conditions reach the point where harvest of additional timber can occur and the combined area can still meet watershed management objectives. - Prescribed burning or other techniques may be used for slash disposal, site preparation, silvicultural, and livestock objectives. In habitat groups where fire is not a useful treatment tool, lopping and scattering, yarding unmerchantable material (YUM), or other methods will be used to reduce fuel accumulations and prepare sites for regeneration. - Project level planning will provide for stand regeneration within five years of final harvest. - Even-aged stands will be scheduled for final regeneration harvest when they generally have reached the culmination of mean annual increment (CMAI) of growth. Exceptions include thinning or other stand improvement measures, salvage or sanitation harvest, management for experimental or research purposes and to meet other resource objectives. CMAI for primary species on the Helena National Forest is shown in Appendix H.	Standard does not apply to No Action, which would not actively manage T-1. The standard applies to Action Alternatives and is met. Timber management activities would occur on approximately 3,662 acres within this MA for the proposed action and 2,216 acres for alternative 3, along with prescribed burning for slash disposal and natural regeneration which would be assured within 5 years of final harvest. The stands where final regeneration harvest were likely at or very near CMAI; and regardless have now been killed by the mountain pine beetle and therefore can be considered in a salvage condition. Refer to the Forested Vegetation Specialist Report.

Management Standards	If Standard applies, how is standard being met
Water and Soils - Timber harvest will not create runoff increases which are likely to result in long term stream channel degradation. All timber sale proposals will include an analysis of the current and projected status of sediment produced. The project proposal will analyze and evaluate the potential water quantity and quality, and soil productivity impacts; mitigation measures should be developed to minimize adverse effects. If a proposal shows the water quality cannot be maintained, the project will be reevaluated or terminated.	This standard is met. An analysis has been completed and is documented in the Hydrology Specialist Report and associated project record. In addition, design criteria have been included for project implementation and would be applied when necessary.
Minerals – Locatable – See Forest-Wide Standards. -Leasable See Forest Plan Amendment #13 for lease standards	Locatable - See Forest-wide Standards and Forest Plan Consistency, Minerals General and Locatable Minerals sections. Leasable - Not applicable to the Telegraph Project as no current oil and gas leases exist within the project vicinity.
Lands – See Forest-Wide Standards	
Facilities - Roads will be constructed as needed to meet the management objectives of the area. - Where existing trails are intersected by new road construction, the trail will be evaluated to determine if it should be retained on the system or abandoned.	New temporary road construction is proposed under the action alternatives, to access vegetation treatment units. New temporary roads would be closed and rehabilitated after use.
Protection - Insect and disease control should emphasize reduction and prevention through timber harvest and timber stand improvement. The use of other approved integrated pest management techniques may be necessary at times. - The appropriate fire suppression response ranges from control to containment depending upon location, expected fire behavior, and other decision logic criteria related to values at risk. These decision criteria are stated in the Fire Management Direction in Appendix R. - Prescribed fire with planned ignitions may be used in this management area, for the enhancement and maintenance of resources. - Fuel reduction methods for activity created fuels include burning, removing residue, or rearranging, such as dozer trampling.	Standard does not apply to No Action, but does apply to the Action Alternatives and is met. Proposed harvest would respond to insect-caused mortality and lower the hazard of future insect problems within treatment units. Prescribed fire would be used to reduce natural fuels. Refer to Forested Vegetation Specialist Report.

Management Standards	If Standard applies, how is standard being met
Riparian - Generally, harvesting will only occur in riparian areas in conjunction with sale activity on adjacent lands. - In riparian areas, any timber harvest should be on a 240 year rotation, and harvest types should be selection or group selection. -See Forest Wide Standards for grazing in riparian. - The small ponds and marshes in Section 15, 16, 21, and 22 of T8N, R6W PMM are unique to this part of Montana and will be protected in project design and implementation.	Standard does not apply to No Action, but does apply to the Proposed Action and is met. Riparian best management practices would be followed.
Management Area T5	
Description - This management area consists of suitable timber stands interspersed with natural openings, generally with existing livestock allotments. Forage is provided by natural meadows and transitory range. The area consists of mostly Douglas-fir, with some lodgepole pine. It encompasses lower elevations and dry sites on the Forest usually on the fringes of native grasslands.	**Management Goals -** Increase production and quality of forage. Manage timber sites cost-effectively, by selecting the most economical harvest system and managing for natural regeneration. Provide for healthy stands of timber and timber products consistent with increasing quality and quantity of forage. Emphasize cost-effective timber production, while protecting the soil productivity. Maintain water quality and stream bank stability. Provide for other resource uses that are compatible with the other goals.
Recreation – Motorized and nonmotorized dispersed recreation activities are permitted and may be supported by constructing or maintaining trails and trailhead facilities. Existing trails and facilities will be maintained unless they are no longer needed. -Controls over motorized recreation will be implemented where necessary to protect the vegetation, soil, water, and wildlife resources and to prevent road damage.	Motorized and non-motorized dispersed recreation activities would still be permitted with this project. However, short term traffic delays and limited access to parts of the project are maybe needed for safety during project implementation.
Visual – Management practices will generally follow guidelines for the modification VQO. The portions of this area (if any) that are within the sensitive viewing areas of the roads, trails, and areas listed in Appendix B will be managed to meet the more restrictive VQOs noted in the appendix. [See Forest Landscape Management Book, Vol. 2 (Ag. Hdbk. No. 461) for definitions of VQOs and how they are applied.]	The potential direct, indirect, and cumulative effects of the proposed activities to visual resources would be consistent with forest plan direction for visual resources because the application of the landscape rehabilitation management alternative as outlined in the VMS would allow a longer period of time for the retention VQO to be achieved.

Management Standards	If Standard applies, how is standard being met
Wildlife and Fisheries –Wildlife and fisheries habitat improvement projects may be implemented, provided they are compatible with the management area goals. -Maintain adequate thermal and hiding cover adjacent to forage areas, provided timber harvest volumes are not significantly reduced over the rotation period.	This standard emphasizes improvement of big game habitat of which fragmentation can be a factor. Mule deer, for example, often use edges created by fragmentation since those areas optimize the relationship between forage and cover. Fragmentation, or thinning of forested stands, can render an area unusable by big game if those areas are devoid of screening properties or other features upon which big game depend. The action alternatives include treatments that would increase fragmentation; however, these open forests should provide a mix of forage and shade during the summer for big game. All of the action alternatives are consistent with these standards in terms of maintaining and/or enhancing big game habitat.
Range – Livestock grazing will generally be maintained at or above 1983 levels, unless a range analysis indicates there is a need to change. -Vacant allotments will be restocked if a range analysis shows it to be feasible and a demand exists. -Transitory range resulting from timber harvest will be integrated into the allotment planning process. -Intensive management systems will be implemented, where cost-effective, to develop the range resource for sustained forage production. Management systems will be designed to minimize conflicts with wildlife. -Forage improvement projects such as sagebrush burning, tree encroachment burning, and noxious plant control may be carried out on a scheduled basis. The schedule will be developed as part of allotment plans. -Existing structural improvements, such as cattle gards, fences, and watering facilities, will be maintained or reconstructed as needed to continue present levels of grazing. Additional improvements may be built if the need is identified in an approved allotment management plan.	Not applicable because the Telegraph Vegetation Project does not propose any changes to livestock use within the project area.

Management Standards	If Standard applies, how is standard being met
Timber - This management area is suitable for timber management. - Timber harvest methods include clearcutting, group selection, and shelterwood harvest, but may be modified to favor forage production. Clearcuts will be designed to ensure natural regeneration. Appendix M provides guidance for various vegetative management practices in the habitat groups on the Forest. - Regeneration will be by natural means and will occur within 5 years of final harvest. - As a minimum, a cutover area will not be considered an opening when: (1) a new forest stand is established and certified as stocked, and (2) vegetative conditions reach the point where harvest of additional timber can occur and the combined area can still meet watershed management objectives. - Final entry of a shelterwood harvest may be delayed up to four decades to provide transitory range and to ensure regeneration. - Animal control may be required on a case by case basis to ensure regeneration within 5 years of final harvest.	Not applicable to the Telegraph Vegetation Project because no treatments are proposed in T-5 under any Alternative.
Water and Soils - Timber harvest will not create runoff increases which are likely to result in long term channel degradation. All timber sale proposals will include an analysis of the current and projected status of sediment produced. The project proposal will analyze and evaluate the potential water quantity and quality and soil productivity impacts; mitigation measures should be developed to minimize adverse effects. If a project proposal shows the water quality cannot be maintained, the project will be reevaluated or terminated.	No treatments proposed in T-5.
Minerals - Locatable—See Forest-Wide Standards. - Leasable ---- See Forest Plan Amendment #13 for lease standards	Locatable - See Forest-wide Standards and Forest Plan Consistency, Minerals General and Locatable Minerals sections. Leasable - Not applicable to the Telegraph Project as no current oil and gas leases exist within the project vicinity.
Lands – See Forest-Wide Standards.	
Facilities - Roads will be constructed as needed to meet the management area goals. - Where existing trails are intersected by new road construction, the trail will be evaluated to determine if it should be retained on the system or abandoned.	Not applicable to the Telegraph Vegetation Project because no roads are proposed within MA T-5.

Management Standards	If Standard applies, how is standard being met
Protection - Insect and disease control should emphasize reduction and prevention through timber harvest and timber stand improvement. The use of other approved integrated pest management techniques may be necessary at times. - The appropriate fire suppression response ranges from control to containment in this management area depending upon location, expected fire behavior, and other decision criteria related to values at risk. These decision criteria are stated in the Fire Management Direction in Appendix R. - Prescribed fire with planned ignitions may be used in this management area, for the enhancement and maintenance of resources. - Prescribed fire with planned ignitions may be used in this management area, for the enhancement and maintenance of resource, when within preestablished prescribed fire criteria. These criteria are detailed in the Fire Management Direction in Appendix R. - Fuel reduction methods for activity created fuels include burning, removing residue, or rearranging, such as dozer trampling.	Standard does not apply with respect to Protection. This MA occurs in the Project Area, but no treatments are proposed in T-5 under any Alternative.
Riparian - Generally, harvesting will only occur in riparian areas in conjunction with sale activity on adjacent lands. - In riparian areas, any timber harvest should be on a 240 year rotation and harvest types should be selection or group selection. - See Forest Wide Standards for grazing in riparian.	Standard does not apply with respect to Timber. This MA occurs in the Project Area, but no treatments are proposed in T-5 under any Alternative.
Management Area W1	
Description - This management area contains a variety of wildlife habitat ranging from important big game summer range to big game winter range. It has a variety of physical environments including riparian, calving or fawning areas, and hiding cover. All slopes, aspects and elevations are represented as well as a wide variety of vegetation ranging from grasslands to densely timbered areas.	**Management Goals -** Optimize wildlife habitat potential, including old growth, over the long term. Provide for other resource uses, if they are compatible with wildlife management goals.
Recreation – Controls over motorized recreation will be implemented where necessary to protect wildlife habitat values of this area. -Nonmotorized dispersed recreation may be supported by constructing trails and trailhead facilities when compatible with management area goals.	Motorized and non-motorized dispersed recreation activities would still be permitted with this project. However, short term traffic delays and limited access to parts of the project are maybe needed for safety during project implementation.
Visual – Management practices will generally follow guidelines for the partial retention VQO. Exceptions may occur on a case-by-case basis to meet wildlife objectives. The portions of this area (if any) that are within the sensitive viewing areas of the roads, trails, and areas listed in Appendix B will be managed to meet the VQOs noted in the appendix. [See Forest Landscape Management Book, Vol. 2 (Ag. Hdbk. No. 462) for definitions of VQOs and how they are applied.]	The potential direct, indirect, and cumulative effects of the proposed activities to visual resources would be consistent with forest plan direction for visual resources because the application of the landscape rehabilitation management alternative as outlined in the VMS would allow a longer period of time for the retention VQO to be achieved.

Management Standards	If Standard applies, how is standard being met
Wildlife and Fisheries –Wildlife habitat improvement practices, including road management, prescribed fire, and other techniques, will be used to maintain and/or enhance the quality of big game and nongame habitat. -Maintain adequate thermal and hiding cover adjacent to forage areas. Generally this means providing at least 25 percent cover, where available, on identified winter range.	This standard emphasizes improvement of big game habitat of which fragmentation can be a factor. Mule deer, for example, often use edges created by fragmentation since those areas optimize the relationship between forage and cover. Fragmentation, or thinning of forested stands, can render an area unusable by big game if those areas are devoid of screening properties or other features upon which big game depend. The action alternatives include treatments that would increase fragmentation; however, these open forests should provide a mix of forage and shade during the summer for big game. All of the action alternatives are consistent with these standards in terms of maintaining and/or enhancing big game habitat. Several miles of roads will be closed and/or decommissioned under all action alternatives. Prescribed fire goals include improving grass and shrublands which would be beneficial to elk. Alternatives 2 would result in the removal of approximately 62 acres of thermal cover; Alternative 3 would result in the removal of 19 acres of thermal cover. The removal of thermal cover would actually create openings in areas that are otherwise contiguous which in turn should create forage opportunities for elk. As such, all action alternatives are consistent with this standard.
Range – Livestock grazing generally does not occur in this management area, except for minor amounts within existing allotments. Livestock grazing will continue within active allotments, however, the level may be increased or decreased if monitoring or range analysis show a need or opportunity to change.	Not applicable to the Telegraph Vegetation Project because there are no proposed changes to livestock use in this MA as part of this project.
Timber - Timber will be harvested only if it can be used as a tool to maintain or enhance wildlife habitat values. Productive forest land is classified as unsuitable for timber management	Standard does not apply to No Action, but does apply to the Action Alternatives and is met. The bulk of areas to be treated in this MA are proposed for prescribed fire only or hand thinning to meet multiple objectives including the promotion of diverse wildlife habitat. One small area (13 acres within unit 91) is proposed for timber harvest in this MA. This action contributes to the goal of promoting diverse wildlife habitats by creating more vigorous and diverse regeneration and altering the connectivity of large downed fuels.
Water and Soils – See Forest-Wide Standards.	
Minerals – Locatable – Timing of mineral activities will be coordinated where practical with the needs of wildlife. This generally will require negotiations during development of operating plans for no surface occupancy during critical wildlife use. - Leasable ---- See Forest Plan Amendment #13 for lease standards	Locatable - Not applicable to the Telegraph Vegetation Project as no mineral related activities are being proposed in association with this project. This standard is outside the scope of the Project activities being considered. Leasable (see Forest Plan Amendment #13) - Not applicable to the Telegraph Vegetation Project as no current oil and gas leases exist within the project vicinity.
Lands – See Forest-Wide Standards.	

Management Standards	If Standard applies, how is standard being met
Facilities – Roads will generally not be constructed for surface management activities within this area. Exceptions may occur if needed for wildlife improvement projects. Roads through this area, which provide access to adjacent areas, are permits only if project planning indicates it is the most feasible access. -Road construction should avoid important big game areas, such as wet, boggy areas.	Not applicable to the Telegraph Vegetation Project because no road construction is proposed under the action alternatives.
Protection - Areas will be evaluated periodically for significant insect and disease problems. Endemic levels will be accepted as normal. If epidemic levels develop and control is necessary, the control method should minimize impacts on big game and other wildlife values. - The appropriate fire suppression response ranges from control to confinement in this management area depending upon location, expected fire behavior, and other decision criteria related to values at risk. These decision criteria are stated in the Fire Management Direction in Appendix R. - Prescribed fire with planned ignitions will be used in this management area, for the enhancement and maintenance of resources. - Prescribed fire with unplanned ignitions may be used in this management area, for the enhancement and maintenance of resources, when within preestablished prescribed fire criteria. These criteria are detailed in the Fire Management Direction in Appendix R. - Prescribed fire may be used as a tool to reduce natural fuels and improve quantity and quality of wildlife forage.	Standard does not apply to No Action, but does apply to the Action Alternatives and is met. The area has been evaluated, and the mountain pine beetle outbreak has impacted it to a large extent. In the Action Alternatives treatments would occur to respond to this condition. Refer to Forested Vegetation Specialist Report.
Riparian –See Forest-Wide Standards for grazing in riparian.	
Management Area P3	
Description - This management area includes the Electric Peak Roadless Area recommended by the Helena National Forest for Congressional designation as wilderness. This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. Final decisions on wilderness designation have been reserved by the Congress to itself.	**Management Goals -** Manage the recommended wilderness additions to protect the wilderness characteristics and to the extent possible allow existing uses, pending Congressional classification.
Recreation - Visitor use may be restricted to prevent loss of solitude or unacceptable depreciation of the wilderness qualities. The limits of acceptable change (LAC) process may be used to determine if management actions are necessary to preserve natural environments and provide wilderness experiences.	Not applicable to the Telegraph Vegetation Project because there are no proposed treatments within the Management Area.

Management Standards	If Standard applies, how is standard being met
Visual - Management practices will follow the guidelines for the preservation VQO.	Not applicable to the Telegraph Vegetation Project because there are no proposed treatments within the Management Area.
Wilderness - If recommended Big Log addition receives wilderness classification, wilderness management direction will be the same as for the rest of the Gates of the Mountains, in Management Area P-2 -Existing structures will be retained. If major rehabilitation or maintenance is needed, an assessment of the continued need and cultural significance will be completed.	Not applicable to the Telegraph Vegetation Project because there are no proposed treatments within the Management Area.
Wildlife and Fisheries - Wildlife habitat improvement projects will conform to Forest Service Wilderness Policy (FSM 2320). -Fish stocking will conform to Forest Service wilderness policy. Stocking can continue in lakes where there is a history of such activity.	This standard is met. There are no treatments proposed within MA P-3.
Range - Natural vegetative composition will be maintained. All existing range allotments may be maintained and managed in accordance with wilderness values. -Existing livestock management improvements may be maintained. -Additional structural improvements may be built only when necessary to maintain the wilderness values.	Not applicable to the Telegraph Vegetation Project because there are no proposed treatments within this Management Area and there are no proposed changes to livestock use as part of this project.
Timber - Timber harvest is not permitted. The management area is classified as unsuitable for timber management.	Not applicable to the Telegraph Vegetation Project because there are no proposed treatments within this Management Area.
Water and Soils - See Forest-Wide Standards.	
Minerals - Areas recommended for wilderness, Electric Peak and Mount Baldy, that currently have oil and gas leases will be managed under the stipulation of the lease until the lease expires. Applications for further oil and gas leasing will be accepted but not processed until the wilderness classification has been determined.	Not applicable to the Telegraph Vegetation Project as no current oil and gas leases exist within the project vicinity.
Lands - This management area is an exclusion area for utility corridors (See Appendix P).	Not applicable to the Telegraph Vegetation Project because there are no proposed treatments within this Management Area.
Facilities - Facilities and structures may be constructed to ensure the protection of the wilderness resource and safety of users. However, facilities may not be constructed solely to provide convenience to users. -Trail construction is permitted and should be accomplished with minimal disturbance of the natural environment. -Roads will not be constructed in this management area.	Not applicable to the Telegraph Vegetation Project because construction of facilities is not proposed as part of this project.

Management Standards	If Standard applies, how is standard being met
Protection - Areas will be evaluated periodically for significant insect and disease problems, such as mountain pine beetle. Endemic levels of insects and most disease agents that do not normally pose threats to adjacent lands will be accepted as naturally occurring. Control measure would be initiated only as a last resort if epidemics do not subside naturally and continue to threaten lands outside the proposed wilderness. -Fire Management Direction in Appendix R will be implemented that permits unplanned ignitions to burn when within prescription, to perpetuate the natural plant and animal diversity. Suppression actions need to be compatible with wilderness management objectives -The appropriate fire suppression response ranges from control to confinement in this management area depending upon location, expected fire behavior, and other decision criteria related to values at risk. These decision criteria will be stated in a Fire Management Action Plan.	Standard does not apply to No Action, but does apply to the Action Alternatives and is met. Proposed harvest would respond to insect-caused mortality and lower the hazard of future insect problems within treatment units. Prescribed fire would be used to reduce natural fuels. Refer to Forested Vegetation Specialist Report.

INFISH Standards Columbia River Basin

Standards	If Standard applies, how is standard being met, and where in the project file is the documentation?
Timber Management	
TM-1 Prohibit timber harvest, including fuel wood cutting, in Riparian Habitat Conservation Areas, except as described below. a. Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian conditions, allow salvage and fuel wood cutting in Riparian Habitat Conservation Areas only where present and future woody debris needs are met, where cutting would not retard or prevent attainment of other Riparian Management Objectives, and where adverse effects can be avoided to inland native fish. For priority watersheds, complete watershed analysis prior to salvage cutting in RHCAS. b. Apply silvicultural practices for Riparian Habitat Conservation Areas to acquire desired vegetation characteristics where needed to attain Riparian Management Objectives. Apply silvicultural practices in a manner that does not retard attainment of Riparian Management Objectives and that avoids adverse effects on inland native fish.	Aquatic Specialist Report including design criteria discusses restrictions on activities and equipment in Riparian Habitat Conservation Areas.

Standards	If Standard applies, how is standard being met, and where in the project file is the documentation?
Roads Management	
RF-2 For each existing or planned road, meet the Riparian Management Objectives and avoid adverse effects to inland native fish by: a. completing watershed analysis prior to construction of now roads or landings in Riparian Habitat Conservation Areas within priority watersheds. b. minimizing road and landing locations in Riparian Habitat Conservation Areas. c. initiating development and implementation of a Road Management Plan or a Transportation Management Plan. At a minimum, address the following items in the plan: Road design criteria, elements, and standards that govern construction and reconstruction. 2. Road management objectives for each road. 3. Criteria that govern road operation, maintenance, and management. 4. Requirements for pre-, during-, and post-storm inspections and maintenance. 5. Regulation of traffic during wet periods to minimize erosion and sediment delivery and accomplish other objectives. 6. Implementation and effectiveness monitoring plans for road stability, drainage, and erosion control. 7. Mitigation plans for road failures. d. avoiding sediment delivery to streams from the road surface. 1. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe. 2. Route road drainage away from potentially unstable stream channels, fills, and hillslopes. e. avoiding disruption of natural hydrologic flow paths. f. avoiding sidecasting of soils or snow. Sidecasting of road material is prohibited on road segments within or abutting RHCAs in priority watersheds.	Proposed temporary roads are generally in upland locations that would likely not pose a risk of sediment delivery to streams. There are no proposed road/stream crossings associated with temporary roads. Mitigation for this project includes reconstruction and ongoing road maintenance activities that will reduce sediment from existing levels. BMPs would be in place to minimize impacts to any fish bearing habitat. No landings would be located in RHCAs. Snowplowing would be evaluated on the Ontario Creek Road or the Little Blackfoot Road above Ontario Creek Road. Road use during wet periods is addressed in standard timber contract clauses. A summary of design criteria, BMPs and mitigation measures are included in the Assumptions section of the Aquatic Species, Hydrology, and Transportation reports.
RF-4 Construct now, and improve existing, culverts, bridges, and other stream crossings to accommodate a 100-year flood, including associated bedload and debris, where those improvements would/do pose a substantial risk to riparian conditions. Substantial risk improvements include those that do not meet design and operation maintenance criteria,	Standard would be met. Existing culverts will be replaced as part of this project. No new culverts will be installed as part of this project. All new culverts will be designed to pass the 100-year flood and provide upstream fish movement. Three of the culverts will replace known barriers to fish movement. BMPs would be in place to minimize

Standards	If Standard applies, how is standard being met, and where in the project file is the documentation?
or that have been shown to be less effective than designed for controlling erosion, or that retard attainment of Riparian Management Objectives, or that do not protect priority watersheds from increased sedimentation. Bass priority for upgrading on risks in priority watersheds and the ecological value of the riparian resources affected. Construct and maintain crossings to prevent diversion of stream flow out of the channel and down the road in the event of crossing failure.	impacts to and fish bearing habitat. A summary of design criteria and mitigation measures are included in the Assumptions section of the Aquatic Species Report.
RF-5 Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams	Standard would be partially met. Although several existing fish passage barriers are being eliminated as part of this project several still remain. No new culverts will be installed as part of this project. All new culverts will be designed to pass the 100-year flood and provide upstream fish movement. BMPs would be in place to minimize impacts to and fish bearing habitat. A summary of design criteria and mitigation measures are included in the Assumptions section of the Aquatic Species Report.
General Riparian Area Management	
RA-3 Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of Riparian Management Objectives and avoids adverse effects on inland native fish.	Herbicide applications will follow guidance from the 2005 Helena Forest Herbicide EIS regarding limits of Tordon applied within any specific 6th code hydrologic unit such that the projected levels of herbicide that may reach surface waters will remain below 0.07 parts per million and thereby remain below levels that may affect fisheries.

Consistency with NRLMD objectives, standards and guidelines for the action alternatives[1]

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
ALL MANAGEMENT PRACTICES AND ACTIVITIES (ALL) *The following objectives, standards and guidelines apply to management projects in lynx habitat in lynx analysis units (LAU) and in linkage areas, subject to valid existing rights. They do not apply to wildfire suppression, or to wildland fire use*	
Objective[30] ALL O1 Maintain[26] or restore[39] lynx habitat[23] connectivity[16] in and between LAUs[21], and in linkage areas[22].	The forested character of the area would be retained and connectivity within and between LAUs would be maintained. The project would have no effect upon lynx linkage area and both action alternatives meet ALL O1.
Standard[43] ALL S1 New or expanded permanent developments[33] and vegetation management projects[48] must maintain[26] habitat connectivity[16] *in an LAU[21] and/or linkage area[22].*	The Project Area is to the west of the continental divide which has been identified as a linkage area in the NRLMD. The project maintains the general forested nature of the action area as well as landscape connectivity permitting broader lynx movements. Planned treatments in Alternative 2 affect up to46% of mapped lynx habitat in the project area; Alternative 3 affects up to 26%). Connectivity across larger landscapes will not be affected by this project although the lynx may have to temporarily adjust movement patterns during project implementation. Standard is met.
Guideline[15] ALL G1 Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways[18] or forest highways[12] across federal land. Methods could include fencing, underpasses or overpasses.	The project does not include construction or reconstruction of highways or forest highways. Guideline is not applicable.
Standard LAU S1 *Changes in LAU[21] boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.*	LAU boundaries have not been changed. Standard is not applicable.

[1] Superscripts refer to definitions in the glossary of the NRLMD.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
VEGETATION MANAGEMENT PROJECTS (VEG) *The following objectives, standards and guidelines apply to vegetation management projects in lynx habitat in lynx analysis units (LAU). With the exception of Objective VEG O3 that specifically concerns wildland fire use, the objectives, standards and guidelines do not apply to wildfire suppression, wildland fire use, or removal of vegetation for permanent developments like mineral operations, ski runs, roads and the like. None of the objectives, standards, or guidelines apply to linkage areas.*	
Objective VEG O1 – Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.	The action alternatives are designed to mimic landscape patterns and create conditions that would increase the resiliency of the project area to natural disturbance processes.
Objective VEG O2 – Provide a mosaic of habitat conditions through time that support dense horizontal cover and high densities of snowshoe hares. Provide winter snowshoe hare habitat in both the stand initiation structural stage and in mature, multi-story conifer vegetation.	The action alternatives are designed to regenerate dead lodgepole pine which will in turn increase stand initiation habitat in about 15 years post-treatment. Intermediate harvest is designed
Objective VEG O3 – Conduct fire use activities to restore ecological processes and maintain or improve lynx habitat.	Prescribed fire proposed in the action alternatives is designed to restore appropriate fire regimes to the project area.
Objective VEG O4 – Focus vegetation management in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover.	The purpose of the Telegraph project is to be responsive to the mountain pine beetle outbreak in the area; this includes regenerating dead lodgepole pine stands which will give rise to stand initiation habitat and thinning live stands to hasten development of multistory characteristics.
Standard VEG S1 – Stand initiation structural stage limits Standard VEG S1 applies to all vegetation management[48] projects that regenerate[37] timber, except for fuel treatment[13] projects within the wildland urban interface (WUI) [49] as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages[44] limit disturbance in each LAU as follows: If more than 30 percent of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management projects.	Approximately 1% (313 acres) of LAU di-03 is identified as 'early stand initiation habitat'; 3% (674 acres) of LAU di-04, and 3% (419 acres) % of LAU di-05. An additional 117 acres of mapped lynx habitat would be regenerated in LAU di-03 thereby increasing the percentage of early stand initiation to 2 % (430 acres) in that LAU. An additional 2,504 acres of mapped lynx habitat would be regenerated in LAU di-04 thereby increasing the percentage of early stand initiation to 16 % (3,178 acres) in that LAU. There are no treatments in LAU di-05. The percent of early stand initiation habitat in all three LAUs does not exceed 30%. LAU di-02 which is adjacent to di-04 to the north is at approximately 5% early stand initiation habitat. Standard is met.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
Standard VEG S2 – Limits on regeneration from timber mgmt. projects Standard VEG S2 applies to all vegetation management[48] projects that regenerate[37] timber, except for fuel treatment[13] projects within the wildland urban interface (WUI)[49] as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI[49] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI[49] see guideline VEG G10. **The Standard:** Timber management projects shall not regenerate[37] more than 15 percent of lynx habitat on NFS lands in an LAU in a ten-year period.	Currently, regeneration harvest in LAU di-03 has occurred on 0.03% of lynx habitat on NFS lands within the past ten years. The Telegraph project would result in the regeneration of up to 117 acres in this LAU (Alternative 2 – the more aggressive alternative in terms of acres treated) which increases the percent regenerated in a ten year period to 0.54%. Currently, regeneration harvest in LAU di-04 has occurred on 0.07% of lynx habitat on NFS lands within the past 10 years. The Telegraph project would result in the regeneration of up to 2,515 acres in this LAU (Alternative 2) which increases the percent regenerated in a ten year period to 13.1%. There are no project treatments in LAU di-05. Standard is met for all LAUs.
Standard VEG S5 – Precommercial thinning limits Standard VEG S5 applies to all precommercial thinning[35] projects, except for fuel treatment[13] projects that use precommercial thinning as a tool within the wildland urban interface (WUI)[49] as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI[49] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI[49] see guideline VEG G10. **The Standard:** Precommercial thinning projects that reduce snowshoe hare habitat, may occur from the stand initiation structural stage[44] until the stands no longer provide winter snowshoe hare habitat only: 1. Within 200 feet of administrative sites, dwellings, or outbuildings; or 2. For research studies[38] or genetic tree tests evaluating genetically improved reforestation stock; or 3. Based on new information that is peer reviewed and accepted by the regional levels of the Forest Service and FWS, where a written determination states: a. that a project is not likely to adversely affect lynx; or b. that a project is likely to have short term adverse effects on lynx or its habitat, but would result in long-term benefits to lynx and its habitat; or 4. For conifer removal in aspen, or daylight thinning[5] around individual aspen trees, where aspen is in decline; or 5. For daylight thinning of planted rust-resistant white pine where 80 % of the winter snowshoe hare habitat[50] is retained; or	There are up to 65 acres of pre-commercial thinning in early stand initiation habitat and stand initiation habitat in LAU di-03 (Alternative 2). All acres are within the WUI. There are 1,262 acres of pre-commercial thinning in early stand initiation habitat and stand initiation habitat in LAU di-04 of which 917 are within the WUI and 345 are outside of the WUI. All acres of early stand initiation habitat and stand initiation habitat proposed for treatment outside of the WUI will be field validated and dropped from units if the field validation indicates that these acres are either early stand initiation or stand initiation. Standard is met.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
6. To restore whitebark pine.	
Standard VEG S6 – Multi-storied stands & snowshoe hare horizontal cover Standard VEG S6 applies to all vegetation management[48] projects that regenerate[37] timber, except for fuel treatment[13] projects within the wildland urban interface (WUI)[49] as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI[49] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI[49] see guideline VEG G10. **The Standard:** Vegetation management projects that reduce snowshoe hare habitat in multi-story mature or late successional forests[29] may occur only: 1. Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or 2. For research studies[38] or genetic tree tests evaluating genetically improved reforestation stock; or 3. For incidental removal during salvage harvest[41] (e.g. removal due to location of skid trails). (NOTE: Timber harvest is allowed in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover [e.g. uneven age management systems could be used to create openings where there is little understory so that new forage can grow]).	There are 14 acres of vegetation treatments in multistory habitat in LAU di-03 (Alternative 2). All acres are within the WUI. There are up to 1,184 acres of vegetation treatments in multistory habitat in LAU di-04 of which 749 are within the WUI and 435 are outside of the WUI. All acres of multistory habitat proposed for treatment outside of the WUI will be field validated and dropped from units if the field validation indicates that these acres are multistory habitat. Standard is met.
Guideline VEG G1 – Lynx habitat improvement Vegetation management[48] projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority should be given to stem-exclusion, closed-canopy structural stage[44] *stands for lynx or their prey (e.g. mesic, monotypic lodgepole stands).* Winter snowshoe hare habitat[50] should be near denning habitat[6].	Treatments are proposed in stem exclusion and mid-seral lynx habitat in order to promote structure diversity and encourage tree growth and understory development.
Guideline VEG G4 – Prescribed Fire Prescribed fire[34] activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.	The construction of fire breaks on ridges or saddles would be avoided unless needed to achieve prescribed fire goals.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
Guideline VEG G5 – Habitat for alternate prey species Habitat for alternate prey species, primarily red squirrel[36], should be provided in each LAU.	Some red squirrel habitat may be affected by proposed treatments; however, ample untreated areas remain in the project area in both action alternatives.
Guideline VEG G10 – Fuel treatments in the WUI *Fuel treatment projects in the WUI*[49] *as defined by HFRA*[17, 48] *should be designed considering standards VEG S1, S2, S5, and S6 to promote lynx conservation.*	Overall, the project is designed to be responsive to the mountain pine beetle outbreak in the area, promote desirable regeneration, improve conditions for fire suppression effectiveness as well as firefighter and public safety in the area in the event of a wildfire, and maintain diverse wildlife habitats. These goals are compatible with conservation of lynx habitat. Both action alternatives have been designed with VEG S1, S2, S5, and S6 in mind. Furthermore, Alternative 3 has been designed to minimize effects to lynx habitat while still meeting the purpose and need of the project.
Guideline VEG G11 – Denning habitat *Denning habitat*[6] *should be distributed in each LAU in the form of pockets of large amounts of large woody debris, either down logs or root wads, or large piles of small wind thrown trees ("jack-strawed" piles). If denning habitat appears to be lacking in the LAU, then projects should be designed to retain some coarse woody debris*[4]*, piles, or residual trees to provide denning habitat*[6] *in the future.*	Denning habitat is not lacking in the project area. Because of the mountain pine beetle outbreak there are currently about 50 snags per acre on average in the7-11.9" size class and 9 in the 12-19.9" size class in the project area. These snags will eventually fall to the forest floor creating abundant denning habitat. About 29% of the project area would be treated leaving 71% untreated.
LIVESTOCK MANAGEMENT (GRAZ) T*he following objectives and guidelines apply to grazing projects in lynx habitat in lynx analysis units (LAU). They do not apply to linkage areas.*	
Guideline GRAZ G1 – Livestock grazing and openings In fire- and harvest-created openings, livestock grazing should be managed so impacts do not prevent shrubs and trees from regenerating.	Prescribed fire, regeneration, and planting units within grazing allotments would be rested at least one growing season following burning to allow for adequate vegetation recovery.
Guideline GRAZ G2 – Livestock grazing and aspen In aspen stands, livestock grazing should be managed to contribute to the long-term health and sustainability of aspen.	Aspen would be favored in all harvest treatments; if post-treatment monitoring indicates that livestock are impeding the ability of aspen to regenerate, then appropriate measures would be taken to protect aspen regeneration (e.g., fencing).
Guideline GRAZ G3 – Livestock grazing and riparian areas & willow carrs In riparian areas[40] and willow carrs[3], livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.	If treatments proposed in the action alternatives result in resource concerns in riparian areas, appropriate measures would be taken to alleviate those concerns.
Guideline GRAZ G4 – Livestock grazing and shrub-steppe habitats In shrub-steppe habitats[42], livestock grazing should be managed in the elevation ranges of	If treatments proposed in the action alternatives result in resource concerns in shrub-steppe habitats, appropriate measures would be taken to alleviate those

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
forested lynx habitat in LAUs[21], to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.	concerns.
HUMAN USE PROJECTS (HU) The following objectives and guidelines apply to *human use projects, such as special uses (other than grazing), recreation management, roads, highways, mineral and energy development, in lynx habitat in lynx analysis units (LAU),* subject to valid existing rights. *They do not apply to vegetation management projects or grazing projects directly. They do not apply to linkage areas.*	
Guideline HU G1 – Ski area expansion & development, inter-trail islands When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris[4], so winter snowshoe hare habitat[49] is maintained.	The project does not include ski expansion or development. Standard is not applicable.
Guideline HU G2 – Ski are expansion & development, foraging habitat When developing or expanding ski areas, foraging should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.	The project does not include ski expansion or development. Standard is not applicable.
Guideline HU G3 – Recreation developments Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat[23].	The project does not include recreation development. Standard is not applicable.
Guideline HU G4 – Mineral & energy development For mineral and energy development sites and facilities, remote monitoring should be encouraged to reduce snow compaction.	The project does not include mineral & energy development. Standard is not applicable.
Guideline HU G5 – Mineral & energy development, habitat restoration For mineral and energy development sites and facilities that are closed, a reclamation plan that restores[39] lynx habitat should be developed.	The project does not include mineral & energy development. Standard is not applicable.
Guideline HU G6 – Roads, upgrading Methods to avoid or reduce effects to lynx should be used in lynx habitat when upgrading unpaved roads to maintenance levels 4 or 5, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.	Some road reconstruction will occur as part of the action alternatives to improve routes used for hauling. This is primarily to reduce resource damage that may occur during hauling (e.g. erosion and sediment delivery to adjacent streams). Maintenance levels would not be upgraded as a result of these road improvements.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
Guideline HU G7 – Roads, locations New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity[16]. New permanent roads and trails should be situated away from forested stringers.	No new permanent roads would be constructed in either action alternative. Standard is not applicable.
Guideline HU G8 – Roads, brushing Cutting brush along low-speed[25], low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.	Road maintenance would occur along haul routes, including brushing in some instances, for safety purposes.
Guideline HU G9 – Roads, new On new roads built for projects, public motorized use should be restricted. Effective closures should be provided in road designs. When the project is over, these roads should be reclaimed or decommissioned, if not needed for other management objectives.	Temporary roads that would be built in the action alternatives will be closed to public use. Post-project implementation, these roads will be decommissioned.
Guideline HU G10 – Roads, ski area access *When developing or expanding ski areas and trails, access roads and lift termini to maintain and provide lynx security[10] habitat.*	The project does not include ski expansion or development. Standard is not applicable.
Guideline HU G11 – Snow compaction Designated over-the-snow routes, or designated play areas, should not expand outside baseline areas of consistent snow compaction[1], unless designation serves to consolidate use and improve lynx habitat. This is calculated on an LAU basis, or on a combination of immediately adjacent LAUs. This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings, or to access regulated by Guideline HU G12. Use the same analysis boundaries for all actions subject to this guideline.	The project does not include ski expansion or development. Standard is not applicable.
Guideline HU G12 – Winter access for non-recreation SUP & mineral & energy development Winter access for non-recreation special uses, and mineral and energy exploration and development, should be limited to designated routes[8] or designated over-the-snow routes[7].	The project does not include non-recreation SUP or mineral/energy development. Standard is not applicable.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
LINKAGE AREAS (LINK) The following objective, standard and guidelines apply to *all projects within linkage areas,* subject to valid existing rights.	
Standard LINK S1 – Highway or forest highway construction in linkage areas When highway[18] or forest highway[12] construction or reconstruction is proposed in linkage areas[22], identify potential highway crossings.	The project does not include highway or forest highway construction. The standard is not applicable.
Guideline LINK G1 – Land exchanges NFS lands should be retained in public ownership.	The project does not include land exchanges. The standard is not applicable.
Guideline LINK G2 – Livestock grazing in shrub-steppe habitats *Livestock grazing in shrub-steppe habitats[42] should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.*	The project is not an allotment management plan. The standard is not applicable.

Appendix C. Cumulative Effects

The area to be analyzed in a cumulative effects analysis is not always limited to the project area, and it varies with the resource or species being analyzed. Each resource will have different "boundaries" for its effects analysis. Quantified, detailed information regarding effects, leading to specific reasoned conclusions can be found in the cumulative effects section of each specialist report located in the project record. The following tables of past, present, and reasonably foreseeable projects have been used by the interdisciplinary team members in determining the cumulative effects for their respective resource. Each resource specialist has determined which of the following activities are applicable to their analysis, depending on their cumulative effects boundary. Some resource reports may mention a project that is missing from this table, however the "hard look" for analysis purposes has been taken.

Table C-1 displays the Past Vegetative and Fuels Activities which have influenced the existing condition. The areas considered include the Telegraph project Area and the larger Telegraph Combo Boundary (largest geographic extent which any resource uses for analysis). Vegetative and fuels activities are sorted by decade. Harvest and fuels records prior to 1950 are generally not available. Harvest activities are sorted by intermediate and regeneration treatments. "Fuels Activities" includes activities such as prescribed fire, hand slashing, pile burning, and wildfire with fuels benefits. **Timber harvest and/or fire acres often overlap on the same piece of ground; the acres reported here reflect additively such multiple entries**. For example, one 30-acre stand may have a harvest treatment, followed by slashing, and later an underburn; this sequence would be reported as 90 acres of activities. However, the actual "footprint" of activities is actually smaller. GIS databases provide clarification on the actual footprint of activities.

Table C-2 reflects present and ongoing projects and activities. These projects are in the implementation phase.

Table C-3 displays the Reasonably Foreseeable projects. These projects are still in the planning phase, which means there is potential for change due to public input, changed conditions, etc.

Past, present, and future activities on this list are displayed as being located either in the project area, combo boundary, or crossing over both boundaries. Because the project boundary is totally encompassed by the combo boundary, any activity shown as being only in the project boundary would also count as an activity within the larger combo boundary. The activities that are checked as being within both the project and combo boundary are activities that crossed or occurred within both boundaries.

Table C-1. Past Vegetative and Fuels Activities/Projects

Activity/Name	Decade/Yr	Scope of Activity	
		Pre 1960	
Forest Service Timber Harvest	Pre 1960	**Telegraph Project Area** Regen Harvest: 25 acres Intermediate Harvest: 0 acres Total: **25 acres**	**Telegraph Combo Boundary** Regen Harvest: 25 acres Intermediate Harvest: 0 acres Total: **25 acres**
Fuels Activities	Pre 1960	**Telegraph Project Area** Total Fuels acres: **0 acres**	**Telegraph Combo Boundary** Total Fuels acres: **0 acres**
		1960–1969	
Forest Service Timber Harvest	1960–1969	**Telegraph Project Area** Regen Harvest: 880 acres Intermediate Harvest: 180 acres Total: **1,060 acres**	**Telegraph Combo Boundary** Regen Harvest: 1,936 acres Intermediate Harvest: 214 acres Total: **2,150 acres**
Fuels Activities	1960–1969	**Telegraph Project Area** Total Fuels acres: **329 acres**	**Telegraph Combo Boundary** Total Fuels acres: **606 acres**
		1970–1979	
Forest Service Timber Harvest	1970–1979	**Telegraph Project Area** Regen Harvest: 1,019 acres Intermediate Harvest: 50 acres Total: **1,069 acres**	**Telegraph Combo Boundary** Regen Harvest: 1,143 acres Intermediate Harvest: 50 acres Total: **1,193 acres**
Fuels Activities	1970–1979	**Telegraph Project Area** Total Fuels acres: **268 acres**	**Telegraph Combo Boundary** Total Fuels acres: **268 acres**
		1980–1989	
Forest Service Timber Harvest	1980–1989	**Telegraph Project Area** Regen Harvest: 1,007 acres Intermediate Harvest: 65 acres Total: **1,072 acres**	**Telegraph Combo Boundary** Regen Harvest: 1,845 acres Intermediate Harvest: 229 acres Total: **2,074 acres**
Fuels Activities	1980–1989	**Telegraph Project Area** Total Fuels acres: **552 acres**	**Telegraph Combo Boundary** Total Fuels acres: **7,338 acres**
		1990–1999	
Forest Service Timber Harvest	1990–1999	**Telegraph Project Area** Regen Harvest: 825 acres Intermediate Harvest: 87 acres Total: **912 acres**	**Telegraph Combo Boundary** Regen Harvest: 839 acres Intermediate Harvest: 87 acres Total: **926 acres**
Fuels Activities	1990–1999	**Telegraph Project Area** Total Fuels acres: **1,453 acres**	**Telegraph Combo Boundary** Total Fuels acres: **2,966 acres**

Activity/Name	Decade/Yr	Scope of Activity	
		2000–2009	
Forest Service Timber Harvest	2000–2009	**Telegraph Project Area** Regen Harvest: 0 acres Intermediate Harvest: 0 acres Total: **0 acres**	**Telegraph Combo Boundary** Regen Harvest: 0 acres Intermediate Harvest: 35 acres Total: **35 acres**
Fuels Activities	2000–2009	**Telegraph Project Area** Total Fuels acres: **19 acres**	**Telegraph Combo Boundary** Total Fuels acres: **71 acres**
		2010–2014	
Forest Service Timber Harvest	2010–2014	**Telegraph Project Area** Regen Harvest: 48 acres Intermediate Harvest: 188 acres Total: **236 acres**	**Telegraph Combo Boundary** Regen Harvest: 59 acres Intermediate Harvest: 634 acres Total: **693 acres**
Fuels Activities	2010–2014	**Telegraph Project Area** Total Fuels acres: **236 acres**	**Telegraph Combo Boundary** Total Fuels acres: **692 acres**
Timber Harvest on Private and other non FS ownership (acres are approximated based on GIS)	2005–2014	**Telegraph Project Area** Timber Harvest: 74 acres Total: **74 acres**	**Telegraph Combo Boundary** Timber Harvest: 1,948 acres Total: **1,948 acres**

Table C-1a. Additional Past Activities/Projects (excluding harvest, fuels)

Project/Activity Name	Decision Date and/or Status	Project Area	Combo Boundary	Brief Description
Banner Creek Bridge #1	2014		X	Deck and curb replacement.
EPA-Little Lilly/Lee Mountain Complex removal and reclamation	2013		X	Mine waste removal and reclamation. Also installed groundwater monitoring wells to evaluate arsenic levels pre and post removal.
Sally Anne Road	2010-2011		X	Aquatic Organism Passage Legacy Road: Road 527 replace undersized Sally Anne culvert with a 12' span by 4' rise by 40' long three sided concrete box culvert.
National Guard High Elevation Helicopter Landing Training	2010	X		MT National Guard requested to conduct helicopter pilot training at various peaks on the Helena National Forest as well as water bucket training. Red Mtn., Treasure Mtn., Negro Mtn., Hog Back, and Lava Mtn.
MT Army National Guard	2010		X	Permit for winter survival training on MacDonald Pass.
Tree Farmer Road	2010		X	Resource Advisory Council: Phase I Road 314 reconstruct 2.4 miles; 4" new surface aggregate for 1.8 miles; construct 2 drain dips; install 2 new 18" culverts Phase II Road 314 reconstruct road for 1 mi.; new surface aggregate for 1.2 miles; construct 2 drain dips
Minnehaha Road	2010	X	X	Legacy Road: Road 527 recondition 4.9 miles, construct 3 drain dips; 4" new surface aggregate on 1.15 miles; install 36 new 18" culverts; replace 2 undersized culverts w/ lager culvert
Hahn Creek Roads	2010	X		American Restoration & Recovery Act: Road 495 replace undersized Hahn Creek culvert w/ a 123" span by 83" rise by 40' corrugate steel pipe arch. Road 1856 replace undersized culvert w/ a 123" span by 83" rise by 40' corrugate steel pipe arch
Telegraph Creek Roads	2009-2010	X		American Restoration & Recovery Act: Road 495 reconstruct 4.1 miles; 4" new surface aggregate for 4.1 miles; dust palliative 1.4 miles; install 24 new 18" culverts; replace 5 undersized culverts w/ larger culverts Road 1856 install 7 new culverts; replace 4 undersized culverts w/ larger culverts Road 1857 install 7 new culverts
Little Blackfoot Roads	2010	X	X	American Restoration & Recovery Act: Road 227 recondition 6 miles; 4" new surface aggregate for 6 miles; dust palliative 6 miles; install 8 new 18" culverts; install 1 new 24" culvert; raise roadbed 2' for 200' just south of Hat Creek to protect roadway during spring runoff

Project/Activity Name	Decision Date and/or Status	Project Area	Combo Boundary	Brief Description
Thomas Brothers Lumber	December 2009	**X**		Hat Creek & Little Blackfoot – Commercial Road Use Permit
U.S. Hwy 12 Improvements	October 2009		**X**	Removal of vegetation (4 to 5 log truck loads), installation of guard rails, erosion protection, and sanding/salting.
Continental Divide Trailhead (CDNST)	July 2009	**X**	**X**	Construction of approximately seven miles of new CDNST to reroute the trail to the Continental Divide. This new segment connects to the Bison Creek Area where the CDNST trail leads onto the neighboring Beaverhead-Deerlodge National Forest.
North Pasture Division Fence	March 2006	**X**		Installation of this fence enabled the permitee to get better cattle distribution in the eastern portion of the pasture that did not receive very much use until this fence was installed. In addition, it helped keep cattle off the Frog Pond areas as well as off Elliston Creek. It also shortened the season of use for two parts of the pasture
Continental Divide Trailhead & Connector Trail	August 2005		**X**	Construction of trailhead and approximately ½ mile of new road to access the trailhead and approximately ½ mile of connector trail to tie in with the existing Continental Divide National Scenic Trail
North Western Corporation Moose Creek Utility Extension	February 2004		**X**	This decision authorized the North Western Corp. the installation, use & maintenance of a 0.6kV buried power line in the Moose Crk drainage. This action includes a 30-foot power line & power pole.
Jericho Mountain Continental Divide Trail Reroute	April 2003	**X**	**X**	This decision implemented new trail construction of approximately 2.2 miles of the CDNST #337 to align the trail to the Continental Divide as per Agency guidance.
Telegraph Cr. Rd. 495 Surfacing and Drainage	2000	X		Road 495 recondition 8.4 miles; 12 inches grid rolled aggregate for 2.25 miles; 4 inches surface aggregate for .48 miles; construct 9 drain dips.
Commercial road use permits	1994–2000	**X**		These permits were issued for short term commercial use of Forest Service Roads. [D&G Lumber (2000), Minihaha Creek (1997), Bullion Parks/Telegraph Creek (1994), Stowe (1994),
Senecal Private Road	2002		X	Authorization of about 500 feet of private road on NFS lands using a Private Road special Use Permit allowing use and maintenance of the access ROW.
Rock Creek Buffalo, Inc. Private Road	2000	**X**		A private road special use permit was issued to D+G lumber, Inc. authorizing the reconstruction, use, and maintenance of approximately 700 feet

Project/Activity Name	Decision Date and/or Status	Project Area	Combo Boundary	Brief Description
Recreational special use permit	1998–2002	X		These permits are issued for short term use on public lands for recreational activies/gatherings. MT DOC (1998), Society for Creative Anachronism (2002), Elliston VFD (1998),
Special Use Permit to the Montana Department of Corrections and Aspen Youth Alternatives (AYA)	1998	X	X	This temporary special use permit was issued to the Montana Department of Corrections for institutional outfitting provided by AYA. The outfitting occurred in the Little Blackfoot Area. Yurts were installed at Monarch Creek Trailhead and the Little Blackfoot Meadows Trailhead.
Monarch Creek Trail Reconstruction	June 1998	X	X	Construction/reconstruction of the non-motorized Monarch Creek Trail #362 in the Electric Peak Roadless Area. Work includes installation of 65 water-bars, 3 wooden stock bridges, and 3 French Drains; reconstruction of 5 switchbacks; construction of a turnpike approximately 25 meters long, obliterate approximately 727 meters of abandoned trail and grub approximately 560 meters of existing trail.
Treasure Mountain Snowmobile Trail Relocation	November 1997	X		This decision approved relocating segments of the groomed snowmobile trail in the Treasure Mountain area. Segments included Little Blackfoot River Road, FSR 1857-A1, FSR 1857, FSR 1857-D1, FSR 1859 to the Telegraph Creek Road. Another section starts on FSR 1857 at the junction with FSR 1857-B1 and proceeds on FRS 157-B1 to Ontario Creek Road 123.
Montana Bureau of Mines and Geology Seismic Monitoring Station	July 1995		X	Installation, use, and maintenance on a seismic monitoring station on lands administered by the Helena Ranger District.
Issuance for Mining Plan of Operations	1989–1993	X	X	Irish Hill-Phleps Dodge Mining Co. (1993): exploratory drilling on ridge between Trout Creek and Spotted Dog Creek drainages; Clemmer Gulch & O'Keefe Mountain (1992): headwaters of Telegraph & Ontario Creek drainages, eight drill sites with 60x60 foot drill pads with approximately 2 acres of surface disturbance; Phelps Dodge Karger II (1990): exploratory drilling with reclamation work; Karger Lode (1989): exploratory drilling with reclamation work; Phelps Dodge Mining Co. (1989): EA conducted
Minnehaha Trail Project	September 1991		X	Decision authorized the development of a trail route between the Moose Creek work center and Forest Road 527 using an old abandoned railroad bed. Activities included construction of a bridge, installing a culvert, pruned trees and shrubs, removed rocks, and relocated power poles off the railroad bed.

Project/Activity Name	Decision Date and/or Status	Project Area	Combo Boundary	Brief Description
Hat Creek Cattle and Horse Allotment	November 1990		X	This was an updated allotment management plan for the Hat Creek C&H allotment. This involved the incorporation of two sections of land from the adjacent Spotted Dog/Trout Creek allotment and the implementation of a three pasture deferred rotation system. Approximately 5 miles of barbed wire fence was also constructed.
MacDonald Pass Cattle and Horse Allotment	November 1990		X	This was an approved updated allotment management plan for the MacDonald Pass C&H allotment. This involved the implementation of a three pasture deferred rotation system and construction of approximately 0.5 miles of barbed wire fence.
Rimini Abandoned Mine Reclamation Project Drilling of Water Quality Monitoring Well	July 1988		X	Approved a plan to drill a well for sampling groundwater quality near Ten-Mile Creek,
Road Drainage Repairs	Completed 2009	X	X	Roads 123, 227, 495, 495-D1, 495-E1, 527, 1856, 1856-D1, 1856-E1, 1856-J1, 1857, 1857-D1, 1863, 1863-A1 and 4104; Blading 43.2 miles, construct drain dips 231
Kading Campground	2010–2011		X	A culvert near the campground entrance has been replaced with a bridge that meets 100-year flood requirements. Beetle infested hazard trees have been removed in Kading CG & around Kading Cabin for visitor safety. Shrubs & trees have been planted to improve aesthetics. Camping spurs have been lengthened & widened w/ some converted to pull-through spurs. New picnic tables and fire rings have been installed throughout the campground & at Kading Cabin to American Disability Act (ADA) standards. Pathways to the existing vault toilets have been widened & improved to ADA standards. Curb stops have been installed & a new visitor information kiosk has been erected at the campground entrance. A single-panel kiosk has been installed at the nearby Blackfoot Meadows Trailhead.
Kading Road	2011		X	Aquatic Organism Passage Legacy Road: Road 227 replace undersized Kading Creek culvert with a 30’ span by 26’ wide concrete bridge
Spotted Dog Land Purchase	2010		X	In 2010 the State Of Montana purchased 27,616 acres of land from Rock Creek Cattle Co. The land is now being managed by Montana Fish Wildlife and Parks as a Wildlife Management Area.

Table C-2. Present and Ongoing Activities

Project/Activity Name	Decision Date and/or Status	Project Boundary	Combo Boundary	Brief Description
7 Private road special use permits	Ongoing	**X**	**X**	These permits were issued to private landowners to access their private land on roads that are primarily not open to public use and some have seasonal closures. Of the 7 permits within the combo boundary, 3 are located within the smaller project boundary.
1 Recreation Residence Tracts	Ongoing		**X**	Residences are authorized under a 20-year Special Use Permit. Lots are typically 1 acre or less in size. These cannot be utilized as a primary residence and can only be used less than six months in a calendar year. One recreation residence is permitted within the Moose Creek VillaTract that falls within the combo boundary.
2 Campgrounds 1 Day Use Areas 2 Rental Cabins	Ongoing		**X**	Campgrounds are open seasonally from May through October and include: Kading and Moose Creek. Day use areas: Continental Divide Trailhead. Rental Cabins: Kading and Moose Creek
Routine Use and Maintenance of Non-motorized Forest Trails for Summer Use	Ongoing	**X**	**X**	There are some non-motorized trails in the Ten Mile Drainage including the Switchback Ridge Trail. Other areas: Continental Divide National Scenic Trail, Little Blackfoot Meadows trail, Monarch, and Larabee Gulch. These trails receive routine maintenance and clearing of debris annually.
HMO closures on the Helena Ranger District	Ongoing	**X**	**X**	Access controls or the permanent closure of mine opening on the Helena Ranger district to ensure public safety. Closures will take place at multiple locations across the Helena Ranger District. More expected closures in 2015 and beyond.
Routine Use and Maintenance of Forest trails and areas for over-snow winter use	Ongoing	**X**	**X**	The formerly Quigley Group Use Area/Campground is sometimes used by cross-country skiers The former Moose Creek Group Use Area is utilized as a snowmobile trailhead accessing a trail system that connects to Bullion Parks over to Jericho Mountain and down along the Hahn Creek Road tying into the Little Blackfoot Road and Kading Cabin /Limburger Springs areas. There is also a snowmobile trailhead located off of the Little Blackfoot Road near the Lions Sunshine Camp. Please refer to the Divide Travel Plan alternative maps for specific trail locations and areas open to over-snow use.

Project/Activity Name	Decision Date and/or Status	Project Boundary	Combo Boundary	Brief Description
MacDonald Vista Point	Ongoing		X	This vista point is located to the south of MacDonald Pass and is a popular observation site. It accesses the Continental Divide National Scenic Trail. During the winter months, this area has been utilized for non-motorized environmental education programs.
Special Recreation Use Permit Helena Lion's Sunshine Camp	Ongoing	X		This authorization is classified as an Organizational Camp issued to the Helena Lion's Club to manage and operate the Lion's Sunshine Camp located in the Blackfoot River drainage on NF lands. The camp provides recreational opportunities in a rural environment to families and youth oriented groups. This camp has been under a special use permit since 1943. (use code 113)
Electronic Sites south of Hwy 12 on MacDonald Pass	Ongoing		X	The south site retains 1 authorized airport beacon near the Vista Point overlook.
Routine Use and Maintenance of Open Forest Roads	Ongoing	X	X	Routine maintenance not necessarily annually includes blading, brushing, culvert cleanout, etc. Use of Forest Roads varies by route and season.
Power Utilities, Phone Utilities, Yellowstone Gas Pipeline, & Touch America Fiber Optic Lines	Ongoing		X	Utility lines are authorized under the terms of a special use permit. The gas and fiber optic line are co-located. Routine maintenance are accepted and understood under the terms of the permit. Located at & near MacDonald Pass.
3 Natural Resource Conservation Service Snotel Sites under a special use permit	Ongoing		X	The NRCS maintains three sites for monitoring snow depth and water content under a special use permit. They are located near Ten Mile Creek.
Timber Harvest on Private or other non FS lands.	Ongoing	X	X	Timber harvest may occur on private lands on unspecified acres, primarily tractor logging within the planning area
Noxious Weed Treatment on National Forest Lands	Ongoing	X	X	Herbicide treatment is primarily along roads and in patches that are accessible to mechanized equipment (spraying with ATVs) and/or by hand, biological (insects), goats/sheep, and aerial spraying. Treatment areas are identified in the EIS/ROD and are continually updated and treated as new infestations are located.
Grazing Activities on Private Lands	Ongoing	X	X	Grazing of cattle, sheep and horses on private lands within the Telegraph Project and Combo boundary. This may result in impacts to riparian vegetation, stream banks, and upland vegetation. There will also be results to vegetation management, forage production, and economic well-being.

Project/Activity Name	Decision Date and/or Status	Project Boundary	Combo Boundary	Brief Description
Dog Creek Grazing Allotment	Ongoing		X	1,729 acres within the combo boundary; 80 permitted cow/calf pair; 92 permitted use days; start of permit is in July; resides west of the divide for season long grazing. Data collected 2009. Grazing permits are issued on a 10 year cycle.
Hat Creek C&H Grazing Allotment	Ongoing	X	X	74 acres in the project area, 8,207 within combo boundary;140 permitted cow/calf pair; 102 permitted use days; start of permit in late June; resides west of the divide and is under a deferred grazing system. Data collected 2009 Grazing permits are issued on a 10-year cycle.
MacDonald Pass Grazing Allotment	Ongoing		X	3,077 acres within the combo boundary; 104 cow/calf pair; 115 permitted use days; start of permit in late June; resides on both sides of the divide and is under a deferred grazing system. Grazing permits are issued on a 10-year cycle.
Slate Lake C& H Grazing Allotment	Ongoing	X	X	827 acres in the project area, 9,331 acres within the combo boundary; 205 permitted cow/calf pair; 92 permitted use days; start of permit in mid June; deferred grazing system; resides west of the divide. Data collected 2009. Grazing permits are issued on a 10-year cycle.
Spotted Dog Grazing Allotment	Ongoing		X	8,453 acres within the combo boundary; 245 permitted cow/calf pair; 102 permitted use days; start of permit is in July; resides west of the divide for season long grazing. Data collected 2009. Grazing permits are issued on a 10-year cycle.
Tenmile Priest Pass C&H Grazing Allotment	Ongoing	X	X	1,730 acres in project area, 5,816 acres within the combo boundary; 200 permitted cow/calf pair; 107 permitted use days; start of permit mid June; rest rotation; resides on both sides of the divide. 2003 Contract for the Priest Pass and Black Mountain allotments, range conditions and weed inventories were completed under a contract. In 2009 proper functioning condition was reached on Mike Renig. Grazing permits are issued on a 10-year cycle.

Project/Activity Name	Decision Date and/or Status	Project Boundary	Combo Boundary	Brief Description
Northwestern Energy Powerline	Ongoing-2015		X	Hazard tree removal along powerline corridor in Tenmile drainage and MacDonald pass.
10-Mile EPA Reclamation	Ongoing-2010		X	Reclamation/removal of approximately 40 to 50,000 cubic yards of soil from a road, residence, and the old Basin Creek Mine at the town of Rimini. Reclaimed sites will be re-vegetated. This project is ongoing.
EPA- Luttrell Repository	Ongoing		X	2014 & 2015: A two year work plan is being implemented so that the cost of opening Luttrell Repository and treatment of waste water resultant from opening the repository can be saved and used to further remedial actions: this approach requires consolidation of mine waste into stockpiles to be hauled to Luttrell Repository in 2015. In 2014, EPA conducted clearing & grubbing so as to establish transport roads for Off Road Waste Hauling Vehicles at the National Extension mine waste site (most accessible from the Basin Side and near the ridge) and the Bunker Hill mine group (located South of Rimini).
Helena Mineral Society-Crystal Mine	Ongoing	X	X	Sally Ann Creek. T8N, R6W, Section 2
University of Montana-Helena Outfitter/Guide Permit	Ongoing	X	X	Permit issued for a variety of guided recreational activities in numerous locations on the Helena ranger district.
Red Mountain Flume/Chessman Reservoir Project	Ongoing		X	Currently implementing a fuel reduction project around Chessman Reservoir and the associated water flume infrastructure. Treatments are designed to reduce hazardous fuels around existing infrastructure. Approximately 500 total acres of fuels treatments and harvest are expected.
Monarch Mineral Sampling	Ongoing	X		Mineral sampling and exploration activities to collect samples for testing from unprocessed mine material piles.
Personal Use Firewood and Post and Pole permits	Ongoing	X	X	Approximately 3 million board feet of wood is sold across the Helena National Forest yearly under personal firewood or post and pole permits. A portion of this volume comes from the project and combo boundary.

Table C-3. Reasonably Foreseeable Activities

Project/Activity Name	Decision Date and/or Status	Project Boundary	Combo Boundary	Brief Description
North Divide Travel Planning	Estimated Implementation 2015	**X**	**X**	The HNF is proposing changes to the existing roads and trail systems on National Forest System lands in the North Divide planning area. This plan will provide for a variety of motorized and non-motorized winter recreation opportunities.
Ten Mile Road Improvement Project (County Route 695) also known as Rimini Road.	Foreseeable		**X**	Improve road way from the junction with Hwy 12 to the junction with the Chessman Reservoir intersection, just over 6 miles in length. Improvements would include replacement of three bridges and associated railings, bridge drainage improvements, upgrading road signs, re-alignment of road segments, and paving.
Tenmile-South Helena	Foreseeable	**X**	**X**	The purpose of the project is to maintain consistent quantity and quality of water within the municipal watershed and improve conditions for public and firefighter safety across the landscape in the event of a wildfire. Approximately 25,027 acres are proposed for treatment (24,020 on NFS Lands and 1,007 on BLM Lands) which would include a combination of commercial harvest of trees, non-commercial vegetation treatments and prescribed fire.
East Deer Lodge Valley Landscape Restoration Management Project	Estimated Implementation 2015		**X**	Beaverhead-Deerlodge NF. Purpose is to achieve Forest Plan Goals including Timber management, Aquatic Improvement, Wildlife Habitat improvement. Proposed activities include timber salvage, commercial thinning, sediment reduction, fish passage, road and trail decommissioning. Project includes 2,038 acres of commercial harvest, 340 acres of commercial thinning and commercial harvest, and 162 acres of commercial thinning.
Rimini Substation	Foreseeable		**X**	Baxendale Fire Dept.is proposing to pour a concrete slab and construct a 3 bay fire station to store firefighting equipment and to utilize existing underground tanks for the filling of fire engines during suppression activities.

Appendix D – Wildlife Appendices

Wildlife Appendix A – Wildlife Analysis Approach

The following table describes how each wildlife parameter is addressed. Some of the parameters have been described in detail in the report, while others are either assumed to be unaffected by the Telegraph Project or are assumed to be addressed under other parameters. Table D-A-1, below, provides the rationale for the level of analysis applied to each wildlife parameter.

Table D-A-1 Wildlife Analysis Approach Table

Wildlife Parameter	Analysis Approach
Wildlife Habitats	
General	The project area comprises several types of wildlife habitats from wetland/riparian habitat to whitebark pine. The Wildlife Specialist Report analyzes in detail effects to wetland/riparian habitats which are most likely to be affected by the project. Other habitats are not analyzed in detail but described in the 'Topics not Analyzed in Detail section. These are: aspen, whitebark pine, mature and early conifer forests, old growth forests, and edges and ecotones.
Habitat Fragmentation	The Continental Divide region of the Helena NF is an inherently fragmented landscape of alternating grasslands and forest with riparian areas serving as focal habitats. These patterns are constantly shifting as a result of natural processes and human enterprises: natural succession, fire, insect outbreaks, climate shifts, timber harvest, livestock grazing, human settlement, water diversion and impoundment, road building. The extent of impacts associated with vegetation management depends on the species, its size, home range, and dispersal habits, as well as the juxtaposition of habitat. Species with small home ranges and limited mobility generally are more susceptible to the barriers and subsequent fragmentation associated with vegetation management. The Wildlife Specialist Report analyzes project effects to habitat fragmentation.
Travel Corridors and Linkage Zones	The Divide has always been an inherently fragmented landscape of alternating grasslands, forests, and local riparian sites. Historically, however, habitats were sufficiently linked by direct connection or proximity that species specialized for one habitat or another (marten or goshawks, for example) were able to move across the landscape. Shifts in habitat patch size and connectivity were generated by fire, insect outbreaks, and other natural phenomena. Since the 1860's, mining, roads, and other long-term human-generated features on the landscape have created rigid movement barriers and impacted riparian areas. These features have reduced the size of habitat patches in which wildlife species are able to operate free from human interference and thus have impeded the ability of a number of species to move through the landscape. The Wildlife Specialist Report analyzes project effects to travel corridors and linkage zones.
Snags and Down Woody Debris	Until recently, large snags and logs have been relatively uncommon over much of the Divide landscape because of the relatively young/middle-aged forest structure (80-120 years old) produced by widespread logging and fires in the late 19th and early 20th centuries. Exceptions have been in pockets of advanced mature and old-growth forest unaffected by historic fire and logging, a few drainages subject to winter kill in the late 1980s (Jericho Mountain, upper Snowshoe Creek, upper Telegraph Creek), and a couple relatively recent mid-sized fires (Beatrap, MacDonald Pass). Numbers of snags and logs have now increased dramatically across the project area as a result of the mountain pine beetle epidemic. Most mortality is occurring in mature lodgepole pine, but whitebark and limber pine are affected as well. The Wildlife Specialist Report addresses this topic.

Wildlife Parameter	Analysis Approach
Noxious Weeds	Noxious weeds impact wildlife by reducing habitat availability where noxious weeds successfully out-compete native vegetation. Weeds are discussed in the Wildlife Specialist Report only as they relate tangentially to other habitat components and processes (elk winter range, ATV off-trail use, livestock grazing, etc.).
Unique Features	Several wildlife species utilize unique features such as cliffs, caves, and talus slopes. These features are not analyzed as a separate topic in the Wildlife Specialist Report; rather, they are analyzed under the respective species that utilizes the unique feature where applicable.
Big Game	
Elk	The elk is a key species on the Helena NF—as an object of public fascination and scrutiny and as a management indicator for other big game species that depend on the same diverse habitat spectrum. Elk make use of a variety of habitats and habitat components, and voluminous research into their use of the landscape provides insights into habitat used by numerous other species. The Forest Plan identifies the components of elk habitat that need to be addressed with regard to vegetation management—primarily, hiding cover on summer range and thermal cover on winter range. Elk and elk habitat are discussed at length in the Wildlife Specialist Report. Additional discussion applicable to elk can be found throughout the Specialist Report, in particular, in sections on Connectivity and Fragmentation and Key Local Areas.
Mule Deer	The mule deer is an adaptable and resilient species. In recent decades population numbers have moved up and down in roughly 20 year cycles. Low points occurred in the 1970s and mid-1990s. As of 2014, populations were once again in decline throughout much of Montana. Nonetheless, mule deer remain widespread and common in the Divide landscape and adjacent non-Forest lands Like elk, mule deer serve as a Forest Plan indicator for big game habitat. Aside from this designation, however, the Forest Plan provides little specific management direction for deer. The Plan assumes that management for elk will take care of the needs of deer. While mule deer exhibit behavior and habitat use patterns somewhat different from those of elk, many key habitat components (productive foraging areas, hiding cover, riparian sites, road density, and human-free areas) are important to both. Consequently, effects analyses for elk are assumed to be valid for elucidating potential effects of the project alternatives on mule deer as well. However, the Wildlife Specialist Report analyzes project effects to mule deer.
Moose	The Shiras moose, a northern Rocky Mountain subspecies, is native to Montana. Moose are be found throughout the Divide landscape, but they are uncommon – a function of their solitary nature coupled with spotted distribution of key habitat around which they focus their activity. Although they move through nearly all types of mountainous habitats, moose seek out productive riparian and subirrigated habitats as foraging sites and spend a large portion of their time there. They will feed on submerged aquatic plants and tall forbs in summer but, above all, they are browsers on tall and mid-sized shrubs. There may be effects of vegetation management on moose. Moose are discussed briefly in the *Topics not Analyzed in Detail* section. Discussions of site-specific project effects on riparian habitat and vulnerability of elk to hunting apply to moose as well.

Wildlife Parameter	Analysis Approach
Bighorn Sheep (sensitive)	Bighorn sheep are have not been identified as resident in the Divide landscape since the early 20th century. The wild sheep, once common, fell victim to early market and subsistence hunting and to disease introduced with domestic sheep. MFWP currently has no plans for reintroduction of bighorn sheep in this area. Sheep are discussed briefly in the *Topics not Analyzed in Detail* section.
Whitetail Deer	As with mule deer, white-tailed deer population numbers tend to cycle periodically; and as with mule deer, their populations are currently in decline in much of the state. A large percentage of whitetail habitat is at lower elevation in riparian areas and valleylands, and thus these deer are much less common on the National Forest than mule deer. Whitetail deer are discussed briefly in the *Topics not Analyzed in Detail* section. Analyses of Elk, Mule Deer, and Riparian Habitats serve as surrogates for project effects on whitetail deer.
Other Hunting and Trapping	Mountain lion and black bear hunting are unique enterprises, each of which requires an individual approach different from what works for elk and deer. But in the end, these species are affected by vegetation management in much the same way as are elk—and the analysis of elk security applies to them as well. Mountain lions and black bears are discussed briefly in the *Topics not Analyzed in Detail* section. See also, the discussion of grizzly bears, road density, and unroaded habitat enclaves.
Threatened, Endangered, and Proposed Species	
Grizzly	In 2002, the northern half of the Divide landscape was classified as a "Grizzly Bear Distribution Zone"—a region outside of the NCDE Recovery Zone in which grizzlies were known to be consistently present. In 2013, the southern half of the landscape was added to the Distribution Zone as well (now the 'Expanded Distribution Zone'). The resident grizzly bear population in this zone appears to be very small, and the bears are seldom observed. The grizzly bear is addressed in the Wildlife Specialist Report.
Canada Lynx	Lynx and lynx habitat occur in the project area. The lynx is addressed in the Wildlife Specialist Report. Effects on lynx are assessed according to standards and guidelines in the Northern Rockies Lynx Management Direction (NRLMD) (2007b)—now a part of the Forest Plan.
Sensitive Species	
Wolf	Wolf packs have occupied the Divide landscape and areas adjacent to it in the valleys and foothills since 1995: 5 packs were known to have been present in this immediate area between 1995 and 2007. Since then, several new packs have formed within reach of the project area, but all have been removed or greatly reduced by USDA Wildlife Services because of their propensity for preying on domestic livestock. A number of wolves have been observed in or near the project area in the last couple years (2010-2014), but evidence of pack formation has been inconclusive. The USFWS and MFWP have monitored all of the known Divide packs intensively, and the movements and actions of these wolves have been well documented. Helena NF biologists have monitored their presence on National Forest lands, particularly with regard to their activity on grazing allotments. There are no known den or rendezvous sites in the project area. Wolves are addressed briefly in the *Topics not Analyzed in Detail* section.
Bald Eagle	No active bald eagle nests have been located on HNF lands in the Divide landscape since the rejuvenation of local eagle populations over the last 3 decades. All known nests near the landscape are in the Little Blackfoot drainage on private land to the west. Most resident eagles on the Forest are located along the Missouri River in the Big Belt Range and along the Big Blackfoot River. No quantitative analysis is needed at this point.

Wildlife Parameter	Analysis Approach
Wolverine	Wolverines are known to exist within the project area. Primary effects associated with the vegetation management include potential disturbance and effects to wolverine habitat. The wolverine is analyzed in the Wildlife Specialist Report.
Fisher	The project area is near the eastern range of fisher habitat. Recently, the U.S. Fish and Wildlife Service (USFWS) announced a 12-month finding on a petition to list a distinct population segment of the fisher in its United States Rocky Mountain Range (USNRM) as endangered or threatened. As part of that effort, the USFWS identified a "presumed" historical and current range of fishers in North America. Their data indicate that fishers most likely were not historically present in the project area. Fishers are addressed briefly in the *Topics not Analyzed in Detail* section.
Black-backed Woodpecker	There has been little habitat capable of sustaining local black-backed woodpecker populations in the Divide landscape in the past century. The last large fires that created an abundance of suitable dead-tree habitat occurred in the late 19th and early 20th centuries. The MacDonald Pass fire in 2009 and the Beartrap Gulch fire in the 1960's created a few hundred acres of local habitat, but these were isolated events. Black-backed woodpeckers were reported in the MacDonald Pass burn in 2010 and 2011. Ongoing bark beetle infestations are creating an abundance of dead tree habitat across the landscape. While this plethora of new snags is proving to be a boon for several woodpecker species (hairy, downy, pileated; flickers) it does not appear to be attracting black-backed woodpeckers as would fire-generated snag arrays. Black-backed woodpeckers are addressed briefly in the *Topics not Analyzed in Detail* section.
Boreal Toad	While boreal toads range through a variety of upland habitats, they concentrate around riparian/aquatic breeding sites. Potential effects, therefore, are assessed primarily in terms of effects to wetlands and riparian habitat. Boreal toads are addressed briefly in the *Topics not Analyzed in Detail* section. See the discussion in the Wetlands and Riparian Habitat section discussed in detail in this report.
Peregrine Falcon	Falcon eyries are located on high cliffs, often near water. Peregrine falcons were extirpated from the Divide landscape in the mid-20th century, and no new occupied eyries have been located in the landscape since the falcons have become re-established in and around the Helena NF (almost entirely in the Big Belt Range) in the early 1990's. No quantitative analysis is needed.
Flammulated Owl	Flammulated owls utilize open park-like conifer forests, especially ponderosa pine. They require an adequate forage base of large insects and a large snag component. There is very little suitable habitat in the project area. Flammulated owls are addressed briefly in the *Topics not Analyzed in Detail* section.
Townsend's Big-eared Bat	These bats inhabit various habitats with caves, tunnels, or trees with loose bark. There is a possibility that they are present in the project area, but none have been found to date. Townsend's bats are addressed briefly in the *Topics not Analyzed in Detail* section. See also the Snags and Woody Debris section discussed in detail in this report.
Northern Leopard Frog	Leopard frogs have not been found in or near the Divide landscape since the early 1990's, and it is likely that they have been extirpated from the area. The analysis of riparian areas will suffice to quantify any potential impacts on leopard frogs, should they be present.
Plains Spadefoot Toad	Spadefoot toads are associated with prairies often with areas of sandy soil or gravel loam (Werner *et al*. 2004 pp. 68-71). They are not known to occur in Divide landscape. Spadefoot toads will not be analyzed further.

Wildlife Parameter	Analysis Approach
Harlequin Duck	Harlequin ducks have never been identified on the Helena NF in the Divide landscape, although they have been reported, rarely, in transit further west on the lower Little Blackfoot River. Harlequin ducks will not be analyzed further.
Northern Bog Lemming	The northern bog lemming has not been identified in the Divide landscape. Nor have any blocks of suitable habitat (sphagnum bogland) large enough to support them been identified. Analyses addressing riparian habitats and other riparian-dependent species will suffice for this species.
Management Indicator Species	
Northern Goshawk	The Forest Plan designates the goshawk as an indicator of old-growth forest, although it is more often found in non-old-growth habitats on the Helena NF. Goshawks maintain large home ranges and make use of a variety of habitats within them. They are most commonly associated with mature forest, and they require closed-canopied mature stands for nesting and successfully fledging young. There are known nest sites and territories within the project area. Known goshawk nesting territories are monitored in the field each year, and active nests are checked as many times as needed to determine nesting success. New territories are monitored whenever they are identified. Because goshawks move to new nest sites each year, it's not possible to always all active nests in a given year, but the presence of goshawks on a territory can usually be verified. The mountain pine beetle outbreak has dramatically affected the configuration of goshawk habitat within the project area (and across the Forest as a whole). The goshawk is analyzed in the main body of the Wildlife Specialist Report.
Pileated Woodpecker	The pileated woodpecker is identified as an old growth-dependent MIS in the Forest Plan. Throughout the Divide landscape, however, pileated woodpeckers are usually found in non-old-growth habitat, with large nesting trees (>30" dbh) being the key habitat component. Availability of insect-prone feeding substrate (typically dead or dying trees) is also important. Observation of pileated woodpeckers is usually fortuitous. The location of observations (of the woodpeckers, by sight or sound, and of their characteristic excavations in trees) are noted and mapped. Observations of pileated woodpeckers are increasing in the Divide landscape as dead trees produced by the mountain pine beetle outbreak continue to proliferate. Pileated woodpecker habitat is analyzed in the main body of the Wildlife Specialist Report.
Hairy Woodpecker	The hairy woodpecker is identified as a snag dependent MIS in the Forest Plan. Hairy woodpeckers are relatively common throughout a variety of habitats in the project area, and their numbers are increasing noticeably in forest stands killed by the mountain pine beetles. They are further analyzed in the main body of the Wildlife Specialist Report.
Marten	The marten is an indicator for the quality of large continuous blocks of mature cover. Marten use mature/ old-growth spruce/fir and lodgepole pine stands for denning. Stumps and downed logs are critical components. Fragmentation of coniferous cover through historical and recent logging and roading has reduced habitat suitability, and trapping has reduced marten numbers directly. Ongoing bark beetle infestation may have mixed implications for marten—increasing the availability of large snags and logs but reducing the availability of mature forest overstory. The primary habitat parameter is the availability of mature forest with abundant coarse woody debris. They are further analyzed in the main body of the Wildlife Specialist Report.

Wildlife Appendix B –Telegraph Project Hiding Cover Methodology and Field Validation

Introduction

The hiding cover analysis for the Telegraph project utilizes the Montana Department of Fish, Wildlife, and Parks (MFWP) definition included in the Forest Plan (USDA 1986, p. II/18): a stand of coniferous trees having a crown closure of greater than 40 percent. The 40% canopy cover metric is an acceptable 'proxy' for mapping hiding cover as it is generally assumed that stands with 40% canopy cover or greater would in turn provide adequate vertical structure that would hide 90% of an elk at 200 feet, the functional definition of hiding cover. This relationship of canopy cover and stand structure is based on modeling done by Lonner and Cada (1982) and others (e.g. Leckenby *et al*. 1985, Thomas *et al*. 1988) who used canopy cover to predict the relationship between hiding cover (as estimated by canopy cover), road densities, and harvest rate the first week of the general hunting season.

Canopy cover is defined as the proportion of the forest floor covered by the vertical projection of tree crowns (Jennings *et al*. 1999, p. 62) (Figure B-1). Canopy cover spatial data used to map hiding cover are derived from R1-VMap based in part on the following documents: the R1 Multi-level Vegetation Classification, Mapping, Inventory, and Analysis System (USDA 2009a), and Region 1 Existing Vegetation Classification System and its Relationship to Region 1 Inventory Data and Map Products (USDA 2011). Canopy cover and crown closure are not synonymous. Canopy cover is described above. Crown closure *"is the proportion of the sky hemisphere obscured by vegetation when viewed from a single point"* (Jennings *et al*. 1999, p. 62) (Figure B-2). Both methods have utility; the method of choice depends on the resource question. Nuttle (1997) suggests that canopy cover may be the more appropriate method for wildlife questions related to the function of trees (i.e. ability to hide an animal), rather than their influence on cover (thermal) or light.

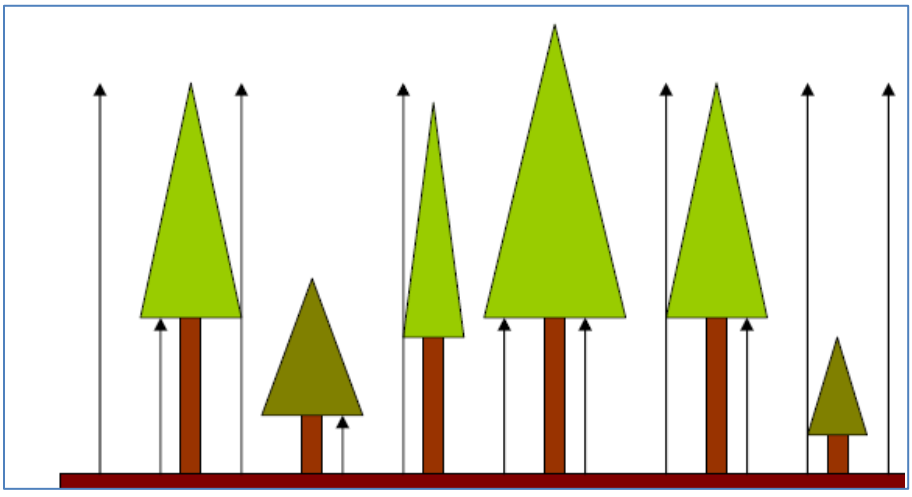

Figure D-B-1. Illustration of canopy cover (from Nuttle 1997 and Jennings *et al*. 1999)

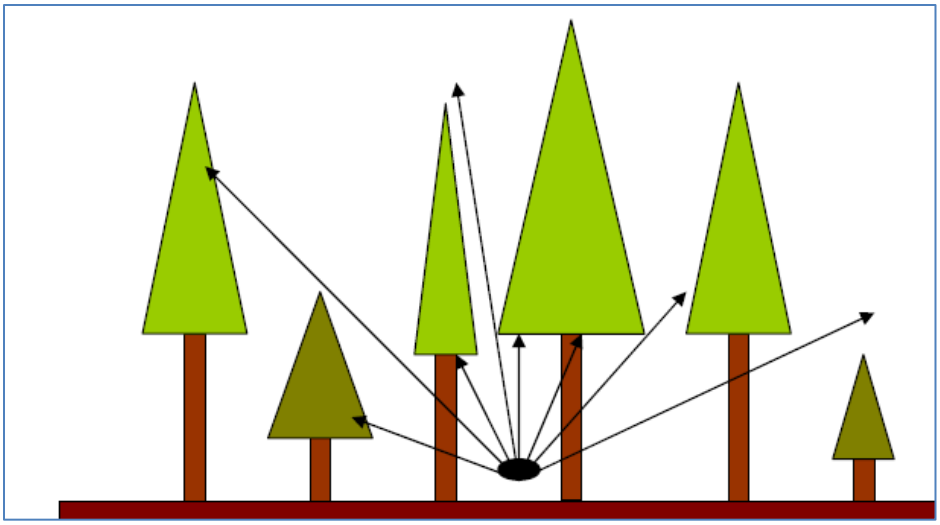

Figure D-B-2. Illustration of canopy closure (from Nuttle 1997 and Jennings *et al*. 1999)

Specifically, the parameters used to map hiding cover include polygons with ≥ 40% canopy cover and ≥ 40 acres in size (USDA 2009b). Timber harvest or other activities that affect vegetation that have occurred within the last 15 years are removed from consideration as hiding cover even if the canopy cover and patch size criteria are met. This is based on the assumption that the trees within these areas are not tall enough to hide elk. So, even though tree height is not a parameter used to map hiding cover, it is accounted for by removing from consideration as hiding cover those stands within which vegetation management has occurred in the last 15 years.

Elk hiding cover data have been collected in Telegraph project area since 2009 to (1) validate that 40% canopy cover does provide the functional attributes of hiding cover – i.e. the ability to hide 90% of an elk at 200 feet and (2) validate the premise that even though the MPB outbreak has resulted in canopy cover losses, while the trees remain standing they will continue to provide functional hiding cover.

Methods

The following process was used to identify sample points:

1. Random points were generated in GIS. GIS is a geographic information system that integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information.
2. Data were collected at each cardinal direction for each point using a cover board. Thus, four measurements were taken at each point.
3. The percent of the cover board that was screened was recorded for each measurement.
4. At least one measurement needed to be greater than 90% in order to consider that point 'capable of hiding 90% of an elk at 200 feet'.

Results

We collected data at 566 points from 2009 through 2013 (Table B-1) in the Telegraph project area. Of those, 538 points had at least one measurement that was ≥ 90%. This represents 95% of the sample points (Figure B-3).

Table D-B-1. Cover board survey results for elk hiding cover 2009–2013

Year	Number of Points Surveyed	Number of Plots that are Capable of Hiding 90% of an Elk at 200 Feet	Percent of 'Capable' Plots
2009–2013	566	538	95%

Conclusions

Our data support that (1) polygons with ≥ 40% canopy cover do provide functional hiding cover most of the time and (2) standing dead trees still function as hiding cover in the absence of canopy cover. This makes sense since it's the vertical and horizontal structure of a stand that provides screening capabilities and not necessarily the canopy cover. The higher Forest Plan threshold associated with the MFWP definition (i.e. 50%) is most likely to account for the fact that some polygons with ≥ 40% canopy cover do not provide hiding cover due to viewing angle, topography, and other factors (Canfield *et al*. 1986, Edge and Marcum 1991).

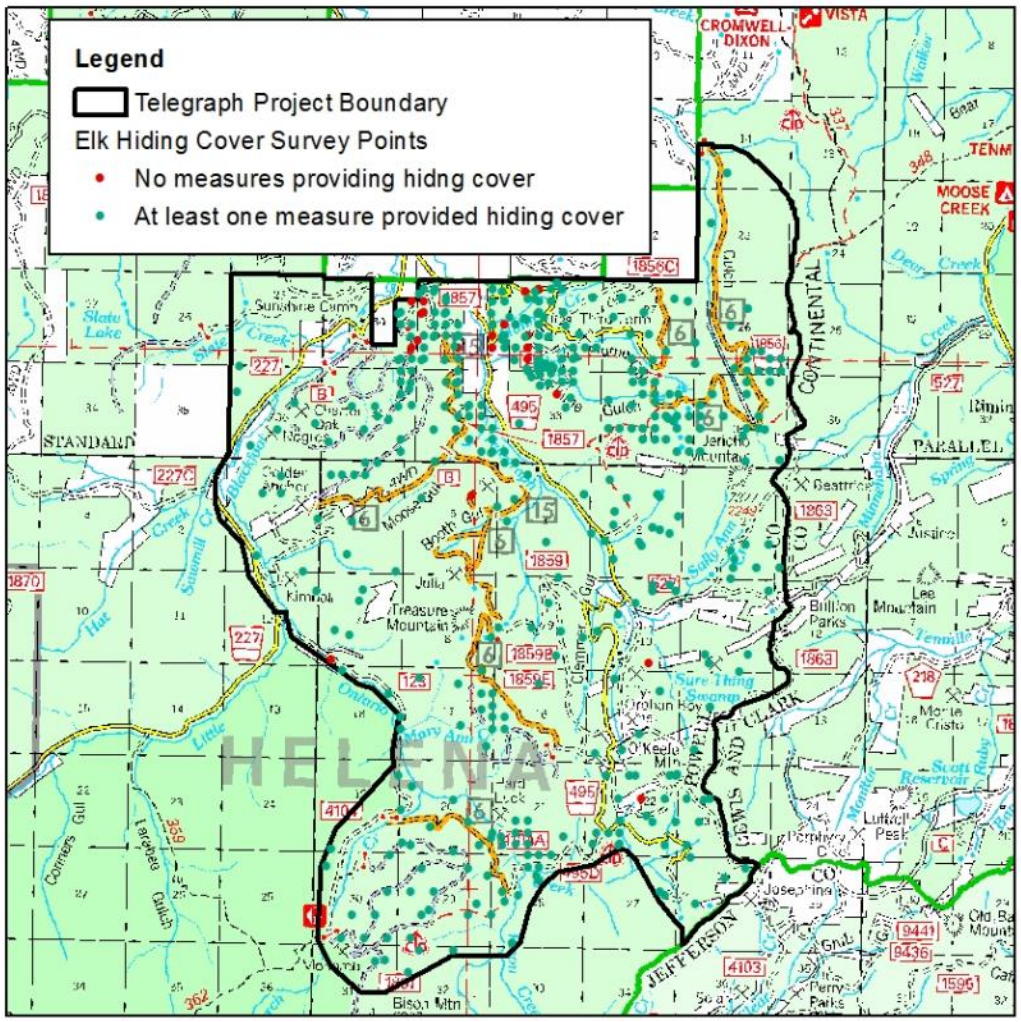

Figure D-B-3. Elk hiding cover survey points in the project area

Wildlife Appendix B References

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Wildlife Appendix C, Consistency with NRLMD objectives, standards and guidelines for the action alternatives[2]

Table D-C-1. Project consistency with NRLMD objectives, standards, and guidelines

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
ALL MANAGEMENT PRACTICES AND ACTIVITIES (ALL) *The following objectives, standards and guidelines apply to management projects in lynx habitat in lynx analysis units (LAU) and in linkage areas, subject to valid existing rights. They do not apply to wildfire suppression, or to wildland fire use*	
Objective[30] ALL O1 Maintain[26] or restore[39] lynx habitat[23] connectivity[16] in and between LAUs[21], and in linkage areas[22].	The forested character of the area would be retained and connectivity within and between LAUs would be maintained. The project would have no effect upon lynx linkage area and both action alternatives meet ALL O1.
Standard[43] ALL S1 New or expanded permanent developments[33] and vegetation management projects[48] must maintain[26] habitat connectivity[16] *in an LAU[21] and/or linkage area[22].*	The Project Area is to the west of the continental divide which has been identified as a linkage area in the NRLMD. The project maintains the general forested nature of the action area as well as landscape connectivity permitting broader lynx movements. Planned treatments in Alternative 2 affect up to46% of mapped lynx habitat in the project area; Alternative 3 affects up to 26%). Connectivity across larger landscapes will not be affected by this project although the lynx may have to temporarily adjust movement patterns during project implementation. Standard is met.
Guideline[15] ALL G1 Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways[18] or forest highways[12] across federal land. Methods could include fencing, underpasses or overpasses.	The project does not include construction or reconstruction of highways or forest highways. Guideline is not applicable.
Standard LAU S1 *Changes in LAU[21] boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.*	LAU boundaries have not been changed. Standard is not applicable.

[2] Superscripts refer to definitions in the glossary of the NRLMD.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
VEGETATION MANAGEMENT PROJECTS (VEG) *The following objectives, standards and guidelines apply to vegetation management projects in lynx habitat in lynx analysis units (LAU). With the exception of Objective VEG O3 that specifically concerns wildland fire use, the objectives, standards and guidelines do not apply to wildfire suppression, wildland fire use, or removal of vegetation for permanent developments like mineral operations, ski runs, roads and the like. None of the objectives, standards, or guidelines apply to linkage areas.*	
Objective VEG O1 – Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.	The action alternatives are designed to mimic landscape patterns and create conditions that would increase the resiliency of the project area to natural disturbance processes.
Objective VEG O2 – Provide a mosaic of habitat conditions through time that support dense horizontal cover and high densities of snowshoe hares. Provide winter snowshoe hare habitat in both the stand initiation structural stage and in mature, multi-story conifer vegetation.	The action alternatives are designed to regenerate dead lodgepole pine which will in turn increase stand initiation habitat in about 15 years post-treatment. Intermediate harvest is designed
Objective VEG O3 – Conduct fire use activities to restore ecological processes and maintain or improve lynx habitat.	Prescribed fire proposed in the action alternatives is designed to restore appropriate fire regimes to the project area.
Objective VEG O4 – Focus vegetation management in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover.	The purpose of the Telegraph project is to be responsive to the mountain pine beetle outbreak in the area; this includes regenerating dead lodgepole pine stands which will give rise to stand initiation habitat and thinning live stands to hasten development of multistory characteristics.
Standard VEG S1 – Stand initiation structural stage limits Standard VEG S1 applies to all vegetation management[48] projects that regenerate[37] timber, except for fuel treatment[13] projects within the wildland urban interface (WUI) [49] as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI see guideline VEG G10. **The Standard:** Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages[44] limit disturbance in each LAU as follows: If more than 30 percent of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat,	Approximately 1% (313 acres) of LAU di-03 is identified as 'early stand initiation habitat'; 3% (674 acres) of LAU di-04, and 3% (419 acres) % of LAU di-05. An additional 117 acres of mapped lynx habitat would be regenerated in LAU di-03 thereby increasing the percentage of early stand initiation to 2 % (430 acres) in that LAU. An additional 2,504 acres of mapped lynx habitat would be regenerated in LAU di-04 thereby increasing the percentage of early stand initiation to 16 % (3,178 acres) in that LAU. There are no treatments in LAU di-05. The percent of early stand initiation habitat in all three LAUs does not exceed 30%. LAU di-02 which is adjacent to di-04 to the north is at approximately 5% early stand initiation habitat. Standard is met.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
no additional habitat may be regenerated by vegetation management projects.	
Standard VEG S2 – Limits on regeneration from timber mgmt. projects Standard VEG S2 applies to all vegetation management[48] projects that regenerate[37] timber, except for fuel treatment[13] projects within the wildland urban interface (WUI)[49] as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI[49] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI[49] see guideline VEG G10. **The Standard:** Timber management projects shall not regenerate[37] more than 15 percent of lynx habitat on NFS lands in an LAU in a ten-year period.	Currently, regeneration harvest in LAU di-03 has occurred on 0.03% of lynx habitat on NFS lands within the past ten years. The Telegraph project would result in the regeneration of up to 117 acres in this LAU (Alternative 2 – the more aggressive alternative in terms of acres treated) which increases the percent regenerated in a ten year period to 0.54%. Currently, regeneration harvest in LAU di-04 has occurred on 0.07% of lynx habitat on NFS lands within the past ten years. The Telegraph project would result in the regeneration of up to 2,515 acres in this LAU (Alternative 2) which increases the percent regenerated in a ten year period to 13.1%. There are no project treatments in LAU di-05. Standard is met for all LAUs.
Standard VEG S5 – Precommercial thinning limits Standard VEG S5 applies to all precommercial thinning[35] projects, except for fuel treatment[13] projects that use precommercial thinning as a tool within the wildland urban interface (WUI)[49] as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI[49] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI[49] see guideline VEG G10. **The Standard:** Precommercial thinning projects that reduce snowshoe hare habitat, may occur from the stand initiation structural stage[44] until the stands no longer provide winter snowshoe hare habitat only: 1. Within 200 feet of administrative sites, dwellings, or outbuildings; or 2. For research studies[38] or genetic tree tests evaluating genetically improved reforestation stock; or 4. Based on new information that is peer reviewed and accepted by the regional levels of the Forest Service and FWS, where a written determination states: c. that a project is not likely to adversely affect lynx; or d. that a project is likely to have short term adverse effects on lynx or its habitat, but would result in long-term benefits to lynx and its habitat; or	There are up to 65 acres of pre-commercial thinning in early stand initiation habitat and stand initiation habitat in LAU di-03 (Alternative 2). All acres are within the WUI. There are 1,262 acres of pre-commercial thinning in early stand initiation habitat and stand initiation habitat in LAU di-04 of which 917 are within the WUI and 345 are outside of the WUI. All acres of early stand initiation habitat and stand initiation habitat proposed for treatment outside of the WUI will be field validated and dropped from units if the field validation indicates that these acres are either early stand initiation or stand initiation. Standard is met.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
4. For conifer removal in aspen, or daylight thinning[5] around individual aspen trees, where aspen is in decline; or 5. For daylight thinning of planted rust-resistant white pine where 80 % of the winter snowshoe hare habitat[50] is retained; or 6. To restore whitebark pine.	
Standard VEG S6 – Multi-storied stands & snowshoe hare horizontal cover Standard VEG S6 applies to all vegetation management[48] projects that regenerate[37] timber, except for fuel treatment[13] projects within the wildland urban interface (WUI)[49] as defined by HFRA, subject to the following limitation: Fuel treatment projects within the WUI[49] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 may occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a National Forest). For fuel treatment projects within the WUI[49] see guideline VEG G10. **The Standard:** Vegetation management projects that reduce snowshoe hare habitat in multi-story mature or late successional forests[29] may occur only: 1. Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or 2. For research studies[38] or genetic tree tests evaluating genetically improved reforestation stock; or 3. For incidental removal during salvage harvest[41] (e.g. removal due to location of skid trails). (NOTE: Timber harvest is allowed in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover [e.g. uneven age management systems could be used to create openings where there is little understory so that new forage can grow]).	There are 14 acres of vegetation treatments in multistory habitat in LAU di-03 (Alternative 2). All acres are within the WUI. There are up to 1,184 acres of vegetation treatments in multistory habitat in LAU di-04 of which 749 are within the WUI and 435 are outside of the WUI. All acres of multistory habitat proposed for treatment outside of the WUI will be field validated and dropped from units if the field validation indicates that these acres are multistory habitat. Standard is met.
Guideline VEG G1 – Lynx habitat improvement Vegetation management[48] projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority should be given to stem-exclusion, closed-canopy structural stage[44] *stands for lynx or their prey (e.g. mesic, monotypic lodgepole stands).* Winter snowshoe hare habitat[50] should be near denning habitat[6].	Treatments are proposed in stem exclusion and mid-seral lynx habitat in order to promote structure diversity and encourage tree growth and understory development.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
Guideline VEG G4 – Prescribed Fire Prescribed fire[34] activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.	The construction of fire breaks on ridges or saddles would be avoided unless needed to achieve prescribed fire goals.
Guideline VEG G5 – Habitat for alternate prey species Habitat for alternate prey species, primarily red squirrel[36], should be provided in each LAU.	Some red squirrel habitat may be affected by proposed treatments; however, ample untreated areas remain in the project area in both action alternatives.
Guideline VEG G10 – Fuel treatments in the WUI *Fuel treatment projects in the WUI[49] as defined by HFRA[17, 48] should be designed considering standards VEG S1, S2, S5, and S6 to promote lynx conservation.*	Overall, the project is designed to be responsive to the mountain pine beetle outbreak in the area, promote desirable regeneration, improve conditions for fire suppression effectiveness as well as firefighter and public safety in the area in the event of a wildfire, and maintain diverse wildlife habitats. These goals are compatible with conservation of lynx habitat. Both action alternatives have been designed with VEG S1, S2, S5, and S6 in mind. Furthermore, Alternative 3 has been designed to minimize effects to lynx habitat while still meeting the purpose and need of the project.
Guideline VEG G11 – Denning habitat *Denning habitat[6] should be distributed in each LAU in the form of pockets of large amounts of large woody debris, either down logs or root wads, or large piles of small wind thrown trees ("jack-strawed" piles). If denning habitat appears to be lacking in the LAU, then projects should be designed to retain some coarse woody debris[4], piles, or residual trees to provide denning habitat[6] in the future.*	Denning habitat is not lacking in the project area. Because of the mountain pine beetle outbreak there are currently about 50 snags per acre on average in the7-11.9" size class and 9 in the 12-19.9" size class in the project area. These snags will eventually fall to the forest floor creating abundant denning habitat. About 29% of the project area would be treated leaving 71% untreated.
LIVESTOCK MANAGEMENT (GRAZ) T*he following objectives and guidelines apply to grazing projects in lynx habitat in lynx analysis units (LAU). They do not apply to linkage areas.*	
Guideline GRAZ G1 – Livestock grazing and openings In fire- and harvest-created openings, livestock grazing should be managed so impacts do not prevent shrubs and trees from regenerating.	Prescribed fire, regeneration, and planting units within grazing allotments would be rested at least one growing season following burning to allow for adequate vegetation recovery.
Guideline GRAZ G2 – Livestock grazing and aspen In aspen stands, livestock grazing should be managed to contribute to the long-term health and sustainability of aspen.	Aspen would be favored in all harvest treatments; if post-treatment monitoring indicates that livestock are impeding the ability of aspen to regenerate, then appropriate measures would be taken to protect aspen regeneration (e.g., fencing).
Guideline GRAZ G3 – Livestock grazing and riparian areas & willow carrs In riparian areas[40] and willow carrs[3], livestock grazing should be managed to	If treatments proposed in the action alternatives result in resource concerns in riparian areas, appropriate measures would be taken to alleviate those

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.	concerns.
Guideline GRAZ G4 – Livestock grazing and shrub-steppe habitats In shrub-steppe habitats[42], livestock grazing should be managed in the elevation ranges of forested lynx habitat in LAUs[21], to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.	If treatments proposed in the action alternatives result in resource concerns in shrub-steppe habitats, appropriate measures would be taken to alleviate those concerns.
HUMAN USE PROJECTS (HU) The following objectives and guidelines apply to *human use projects, such as special uses (other than grazing), recreation management, roads, highways, mineral and energy development, in lynx habitat in lynx analysis units (LAU),* subject to valid existing rights. *They do not apply to vegetation management projects or grazing projects directly. They do not apply to linkage areas.*	
Guideline HU G1 – Ski area expansion & development, inter-trail islands When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris[4], so winter snowshoe hare habitat[49] is maintained.	The project does not include ski expansion or development. Standard is not applicable.
Guideline HU G2 – Ski are expansion & development, foraging habitat When developing or expanding ski areas, foraging should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.	The project does not include ski expansion or development. Standard is not applicable.
Guideline HU G3 – Recreation developments Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat[23].	The project does not include recreation development. Standard is not applicable.
Guideline HU G4 – Mineral & energy development For mineral and energy development sites and facilities, remote monitoring should be encouraged to reduce snow compaction.	The project does not include mineral & energy development. Standard is not applicable.
Guideline HU G5 – Mineral & energy development, habitat restoration For mineral and energy development sites and facilities that are closed, a reclamation plan that restores[39] lynx habitat should be developed.	The project does not include mineral & energy development. Standard is not applicable.
Guideline HU G6 – Roads, upgrading Methods to avoid or reduce effects to lynx should be used in lynx habitat when	Some road reconstruction will occur as part of the action alternatives to improve routes used for hauling. This is primarily to reduce resource

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
upgrading unpaved roads to maintenance levels 4 or 5, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.	damage that may occur during hauling (e.g. erosion and sediment delivery to adjacent streams). Maintenance levels would not be upgraded as a result of these road improvements.
Guideline HU G7 – Roads, locations New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity[16]. New permanent roads and trails should be situated away from forested stringers.	No new permanent roads would be constructed in either action alternative. Standard is not applicable.
Guideline HU G8 – Roads, brushing Cutting brush along low-speed[25], low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.	Road maintenance would occur along haul routes, including brushing in some instances, for safety purposes.
Guideline HU G9 – Roads, new On new roads built for projects, public motorized use should be restricted. Effective closures should be provided in road designs. When the project is over, these roads should be reclaimed or decommissioned, if not needed for other management objectives.	Temporary roads that would be built in the action alternatives will be closed to public use. Post-project implementation, these roads will be decommissioned.
Guideline HU G10 – Roads, ski area access *When developing or expanding ski areas and trails, access roads and lift termini to maintain and provide lynx security[10] habitat.*	The project does not include ski expansion or development. Standard is not applicable.
Guideline HU G11 – Snow compaction Designated over-the-snow routes, or designated play areas, should not expand outside baseline areas of consistent snow compaction[1], unless designation serves to consolidate use and improve lynx habitat. This is calculated on an LAU basis, or on a combination of immediately adjacent LAUs. This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings, or to access regulated by Guideline HU G12. Use the same analysis boundaries for all actions subject to this guideline.	The project does not include ski expansion or development. Standard is not applicable.
Guideline HU G12 – Winter access for non-recreation SUP & mineral & energy development Winter access for non-recreation special uses, and mineral and energy exploration and development, should be limited to designated routes[8] or designated over-the-snow routes[7].	The project does not include non-recreation SUP or mineral/energy development. Standard is not applicable.

Northern Rockies Lynx Management Direction	Consistency with the Action Alternatives
LINKAGE AREAS (LINK) The following objective, standard and guidelines apply to *all projects within linkage areas,* subject to valid existing rights.	
Standard LINK S1 – Highway or forest highway construction in linkage areas When highway[18] or forest highway[12] construction or reconstruction is proposed in linkage areas[22], identify potential highway crossings.	The project does not include highway or forest highway construction. The standard is not applicable.
Guideline LINK G1 – Land exchanges NFS lands should be retained in public ownership.	The project does not include land exchanges. The standard is not applicable.
Guideline LINK G2 – Livestock grazing in shrub-steppe habitats *Livestock grazing in shrub-steppe habitats[42] should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.*	The project is not an allotment management plan. The standard is not applicable.

Wildife Appendix D, Viability Analysis

The status of wildlife populations, as we currently understand their distribution on the Helena National Forest (HNF), and their habitats are examined in this section in order to address Forest Plan and Agency requirements that: (1) "viable populations of existing native and desirable non-native plant and animal species are maintained" (*Forest Plan* II/17) and (2) management activities do not cause a trend towards listing for species that have been identified as sensitive on the Region One Sensitive Species List.

Summary of Population Viability Status

Forest Service Region One defines a viable species as "consisting of self-sustaining populations that are well distributed throughout the species range." Self-sustaining populations are "sufficiently large, and have sufficient genetic diversity to display the array of life history strategies and forms that will provide for their persistence and adaptability in the planning area over time" (Samson 2006). The following table summarizes the type of data available for each MIS and for the wolverine, a sensitive species. The wolverine is the only sensitive species analyzed since it's the only one analyzed in detail above. Ratings for other sensitive species not included in the following table can be found in the *Biological Evaluation* section.

Table D-D-1. Primary Information Sources for Determining Population Viability of MIS and Sensitive Species in the Telegraph Project Area and the HNF

Indicator/ Sensitive Species	Presence/ Absence Surveys by Protocol	Presence/ Absence Surveys Random	Intermittent Species Observations	Comprehensive Habitat Modeling	R1 Conservation Assessment	Habitat Surveys
Elk	X			X		X
Mule Deer	X			X		X
American Marten				X	X	
Northern Goshawk	X	X	X	X	X	X
Pileated Woodpecker	X	X	X	X	X	X
Hairy Woodpecker	X	X	X	X		X
Wolverine	X	X	X	X		

Viability ratings for elk and mule deer are based on annual tallies of individuals in the field, usually by MFWP. Extensive data on suitable habitat is also available for elk and mule deer, through Forest-wide habitat modeling and systematic field surveys. Ratings for goshawk and hairy woodpecker are based on wide-ranging, but less complete, population surveys in the field. This information is sufficient to indicate the general magnitude and distribution of populations in the project area and throughout the *Forest Plan* area. Availability of suitable habitat has been estimated through Forest-wide habitat models, systematic habitat surveys, or both.

Ratings for wolverine, marten, and pileated woodpecker are more problematic. Population information comes primarily through tallies and mapping of fortuitous and, occasionally, targeted field observations. This demonstrates that the species continue to inhabit the planning area, if not the project area, and it

provides a rough indication of how they are distributed. But it is a crude estimator of viability. On the other hand, Regional and Forest-wide habitat models and general field surveys provide a basis for assessing habitat sufficiency.

Based on discussion in the *Northern Region Viability Protocol* (Samson 1997), a review of the Northern Region *Viability Committee Report* (Samson 1997 Appendix B), and *Habitat Estimates for Maintaining Viable Populations* (Samson 2006) the following qualitative rating system was applied to MIS populations and habitats as a means of assessing at population viability (Table *Rating System for MIS Populations and Viability*).

Table D-D-2. Rating System for MIS Populations and Viability

Rating	Population Distribution and Condition within Potential Habitat	Potential for Population Interaction and Colonization of Empty Habitat	Probability of Population Persistence over 50–100 years
5	Population widely distributed, robust, and resilient	Few limitations on population interactions	Very High: Population large, widespread, relatively stable, highly resilient
4	Population well distributed; variable population density	Some barriers to population interaction and habitat occupancy	High: Population widespread, resilient; no insurmountable decimating factors or habitat problems
3	Population may be widely but sporadically distributed; variable density within suitable patches	Barriers to interaction result in some persistently empty habitat blocks	Moderate: Population widely but sporadically distributed; key habitat may be limited or vulnerable; decimating factors a potential problem
2	Population segments localized; small but may be persistent	Population segments often isolated; limited routes for interaction and recolonization of empty habitat	Low: Population small, subject to stochastic effects; long-term availability of key habitat uncertain
1	Population segments localized, small, ephemeral	Population segments highly isolated; little possibility of interaction or recolonization of empty habitat	Very Low: Populations very small, habitat limited and unstable; highly vulnerable to stochastic effects

The ratings in the following table apply to potential habitat for the HNF as a whole. In some cases, the project area contributes to maintaining viability of these populations but is not sufficient in and of itself to encompass or support a self-contained viable population or subpopulation. Given the lack of quantitative data, it is not possible to define a precise timeframe for probability of persistence. But, in general, it is intended to apply to the long term: the probability that the population would persist for 50–100 years within the Helena National Forest *Plan* Area (Samson 1997).

Table D-D-3. MIS and Sensitive Species Potential Habitat for the HNF

Indicator/ Sensitive Species	Population Distribution Rating	Population Interaction Rating	Estimated Probability of Population Persistence	Comments
Elk	5	4	5	Elk populations on the HNF are robust. Habitat is ubiquitous. These conclusions follow from detailed annual population monitoring by MFWP and extensive habitat surveys by the Helena NF. Local barriers to elk movement are common, but no substantial blocks of elk habitat are isolated. In spite of local habitat problems, elevated predation in some areas, and persistent hunting pressure in others, long-term viability of elk populations is not a concern.
Mule Deer	5	4	5	Mule deer are widely distributed across the Helena NF and surrounding areas. Habitat is ubiquitous. Local impediments to free movement are common, but no substantial blocks of mule deer habitat are isolated. Mule deer often move easily through and inhabit areas of human settlement. Deer populations have cycled up and down over 10-20 year periods for a variety of reasons, but they have never declined to a point where population viability has been at risk. In spite of local habitat problems, predation, and hunting pressure, long-term viability of mule deer populations is not a concern.
American Marten	3	4	4	Primary marten habitat with mature trees and abundant coarse woody debris is patchy but widely distributed in the project area and across the Helena NF. Habitat is most abundant on the Lincoln RD. It is increasing as forests age in areas not affected by mountain pine beetle (mature Douglas-fir, subalpine fir, Engelmann spruce forest). Primary habitat is interconnected by forested travel habitat. Impact of the beetle outbreak is uncertain, as it subtracts mature forest canopy but increases coarse woody debris. Marten are widely distributed, but numbers are unknown. Prospects for long-term viability are good, as long as trapping pressure does not substantially exceed present levels.
Northern Goshawk	4	4	4	Mountain pine beetle is reducing habitat—particularly nesting sites—over extensive areas across the Helena NF. Field surveys indicate that goshawks remain widespread; though nesting success may have decreased. Goshawks are capable of nesting in a variety of

Indicator/ Sensitive Species	Population Distribution Rating	Population Interaction Rating	Estimated Probability of Population Persistence	Comments
				mature forest configurations and are adapting to changing forest conditions. Enough suitable nesting habitat will remain to support viable populations; but reduction and fragmentation of habitat may lower population in the mid-term. As mature forest habitats regenerate, goshawk populations will return to previous levels.
Pileated Woodpecker	2	2	2	Pileated woodpeckers are uncommon but present in the project area. Field observation suggests that they have increased with the pine beetle infestation. The presence of large nesting/roosting trees is the key to their persistence. This habitat component while not overly abundant is common enough across the Forest to ensure the long term viability of pileated woodpeckers.
Hairy Woodpecker	5	4	5	Hairy woodpeckers are common and well distributed in all forest habitats with insect-supporting trees and cavity potential on the Helena NF. Populations have increased with the pine beetle outbreak. Potential for suitable habitat persistence and woodpecker population viability over the long term is excellent.
Wolverine	3	4	4	The wolverine population on the Helena NF is small but persistent, with the animals ranging through a wide variety of habitats in all 4 Forest landscapes. A small number of wolverines have been documented in the Divide landscape over the past few years. Habitat changes wrought by mountain pine beetles, fire, and forest management are unlikely to suppress the ability of wolverines to persist across the Forest. Travel planning over 2 decades has increased the acreage of non-motorized habitat available to wolverines. Primary limiting factors are trapping mortality and loss of high elevation, snowbound denning habitat due to global warming. At present, such factors on the Helena NF are insufficient to threaten the region-wide viability of wolverines.

Samson (2005; 2006) in *A Conservation Assessment of the Northern Goshawk, Black-backed Woodpecker, Flammulated Owl, and Pileated Woodpecker in the Northern Region* and *USDA Forest Service Habitat Estimates For Maintaining Viable Populations of the Northern Goshawk, Black-backed Woodpecker, Flammulated Owl, Pileated Woodpecker, American Marten, and Fisher* (Samson 2005; Samson 2006) summarizes the status of viability for northern goshawks, pileated woodpeckers, and American martens. Pileated woodpeckers, flammulated owls, and fishers are not analyzed in detail for this project.

- The species considered in this analysis are 'secure' or 'apparently secure' in terms of persistence (NatureServe 2011).
- Below (and not above) a threshold of 20–30% of habitat amounts, effects of fragmentation (i.e., patch size and isolation) are suggested to have a negative impact on species persistence. Effects of habitat fragmentation on birds are described to be less in the western United States in comparison to those reported in seminal and numerous studies in the Midwest and east.
- No indication exists that forested ecosystems in the Northern Region have reached the 20–30% threshold of historic. Forested systems in the Northern Region are more extensive than in historic (approximately 1800) times (Hessburg and Agee 2003; Hessburg *et al*. 2004).
- Comparison of habitat required for a species-specific minimum viable population to that available indicates well-distributed habitat in far excess to that needed, given the natural distribution of species and their habitats as mapped by the Montana Natural Heritage Program, Idaho Birdnet, and the scientific literature.
- Region-wide habitat modeling for the American marten is restricted by the unavailability of sample-based information on large down woody debris and the variability evident in habitat use by martens. Site-specific models for the American marten may need to be adjusted to include resting site and nest site information (based on point observation data) which may or may not influence habitat amount estimates.

Habitat Analysis and Conclusions

Samson (2006) (updated USDA 2008) identifies critical thresholds needed to maintain population for selected species within the Northern Region of the Forest Service (Table *D-4).* Estimates derived from the Helena National Forest Intensified Grid Summary Database (June 2013) indicate that habitat for these selected species exceeds the critical thresholds identified by Samson. The models used to generate estimates are based on Samson (2005, 2006) and USDA (2009a).

Table D-D-4. Summary[1] of critical habitat thresholds (acres) to maintain minimum viable populations for three species in Northern Region compared with existing conditions on the HNF (based on intensified grid data)

Species	Critical Thresholds for the HNF Samson (2006, updated 2008)	Current Habitat Estimates for the HNF based on Intensified Grid Data[2]
Northern Goshawk	133,436 (nesting and foraging)	361,963 (nesting and foraging)
Pileated Woodpecker (nesting and foraging)	91,923	193,112
American Marten	3,459	293,064

[1] Current habitat estimates are based on the HNF Summary Database (June 2013 Data).
[2] Estimates are derived by multiplying the percentage of forested data points identified as a given species habitat by the total forested acres on the Helena National Forest (approximately 929,860 acres according to updated ownership and grid data).

This table gives a sense of the factors important to maintaining viability some of the MIS in the project area that are particularly vulnerable to habitat loss. At present, the primary factor influencing the viability and quality of habitat for these species is the mountain pine beetle outbreak, which has killed lodgepole and ponderosa pine trees over hundreds of thousands of acres on the Forest. Long-term population viability for these species will be determined by their ability to adapt to the new habitat configurations and to maintain a persistent, if somewhat modest presence, in Helena NF landscapes until forests recover their former structure.

Forest-wide habitat continues to remain above critical thresholds for the three species identified in Table D-4 even considering habitat removal associated with the action alternatives. Acres of habitat treated for these species would not result in a breach of the critical thresholds. Therefore, viability for these species appears sound and would remain so upon implementation of proposed treatments regardless of alternative selected.

Viability for wolverine, elk and mule deer, and hairy woodpeckers also appears sound although critical thresholds have not been identified. Elk and mule deer habitat is abundant and well-distributed across the Forest and viability is largely determined through hunting quotas, which are outside the scope of this project. Except for some specific denning-related requirements, wolverines are opportunists and habitat generalists, and are little affected by beetle generated changes. Changes under the action alternatives with the greatest potential to impact wolverines are associated with the human disturbance of project activities. However, this would not be substantial enough to influence population viability.

Hairy woodpeckers inhabit a wide variety of environments with dead, dying, or other insect prone trees. Given the widespread availability of foraging and nesting substrate generated by the mountain pine beetle outbreak, habitat for hairy woodpeckers will be overly abundant across the Forest for several years.

Appendix E – Wildlife Cumulative Effects Analysis

The cumulative effects analysis is based on a review of those projects/activities included in the *Telegraph Cumulative Effects Analysis Tables*. For each species/habitat for which the Telegraph project may impact, the historic, past (1987-2014), present, and reasonably foreseeable future projects are evaluated for their cumulative effect on wildlife and their habitats.

Cumulative Effects and the Environmental Baseline

The environmental baseline for the wildlife and habitats analyzed in the Specialist Report is a result of the past activities that may have resulted in changes to those habitats. The effects of those past projects in the cumulative effects tables that resulted in the modification of habitat are reflected in the environmental baseline. Specifically, and for example, if vegetation management has occurred in the past, then those changes on the landscape as a result of management are reflected in current acreages for a given species' habitat. There changes are also described in the respective cumulative effects analysis.

Cumulative Effects Analysis Areas

The cumulative effects analysis area is based on the habitat or species of interest and includes:

- Project area
- Elk herd units
- Lynx analysis units
- Combined boundary
- Divide Landscape

Synopsis of Cumulative Effects Relevant to Wildlife

Summary of Historic Effects

Humans have had an influence on wildlife and their habitat prior to the arrival of the first eastern explorers and settlers. Local Native Americans influenced wildlife through hunting and trapping, setting fires, establishing seasonal encampments, and grazing horses, as well as a variety of other activities. Aside from setting fires, most of these activities were localized or of low intensity such that widespread impacts on wildlife and their habitats were not present. With the arrival of Euro-Americans, major changes occurred to wildlife and their habitats. Beaver were nearly extirpated, riparian areas were dwindling, and mining, particularly on the Helena National Forest, exerted major landscape influences. Primary historic influences on wildlife and their habitats include the following and the extent to which these influence and shape wildlife habitats is reflected in the environmental baseline:

- Road building and maintenance some of which has modified streams, reduced terrestrial habitat, and reduced habitat effectiveness by facilitating human access
- Domestic livestock grazing on public and private lands
- Timber harvest
- Fire suppression that has resulted in shifts in stand structure and composition
- Trapping and hunting which has reduced populations of several species in the Divide Landscape (e.g. wolves, grizzly bears)
- Widespread recreation including dispersed and developed recreation that result in varying degrees of disturbance to wildlife and their habitats
- Dispersed settlement on Forest inholdings
- Wildfire

Summary of Past Effects (1987-2014), Ongoing Effects, and Reasonable Foreseeable Effects

Past, Ongoing, and Reasonably Foreseeable activities within or near the project area that continue to influence wildlife include timber management, mineral exploration, grazing management, special use permits, and fuels management, among others. A majority of past regeneration harvest occurred prior to the 1990s while fuels treatments spiked in the 1980s (Figure E-1).

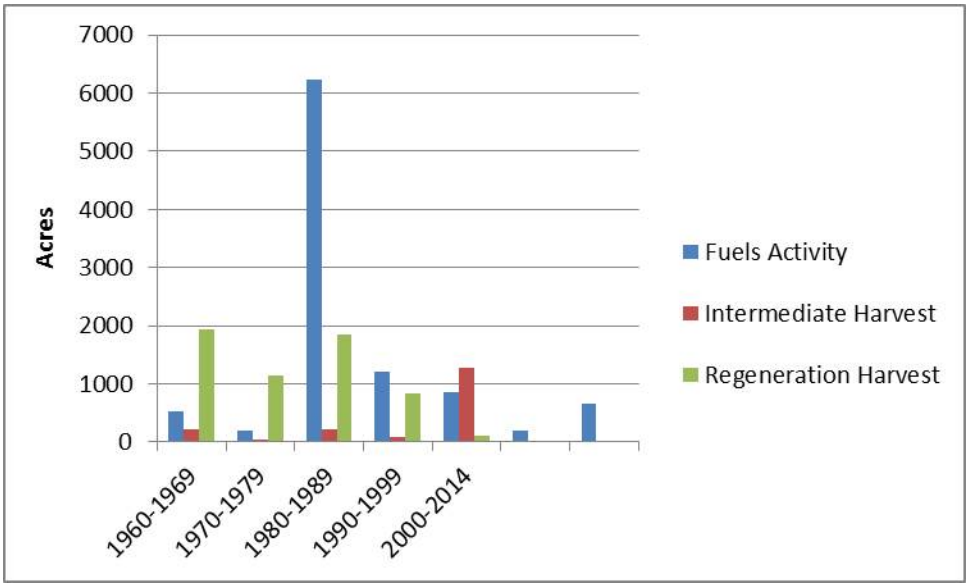

Figure D-E-1. Acres treated within the Combined Boundary by Fuels Management or Timber Harvest from pre-1960s through 2014

Implications of Proposed Action for Cumulative Effects

Contributions of the project to cumulative effects are identified in the following tables. Table 1 summarizes the effects of past vegetative and fuel activities on the composition of the existing vegetation in the project area and combined boundary and the contributions of the alternatives to that condition. Table 1a summarizes the contributions of the alternatives to past activities that are not related to changes in vegetation. Table 2 summarizes the ongoing activities and Table 3 summarizes reasonably foreseeable activities. These tables focus on the changes in vegetation and physical parameters (i.e. roads) and how the action alternatives may contribute to these parameters.

Table D-E-1. Past Vegetation and Fuels Activities/Projects

Decade/ Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
Forest Service Timber Harvest				
Pre 1960 1960 - 1969	Regen: 25 acres Inter: 0 acres Regen: 880 acres Inter: 180 acres	Regen: 25 acres Inter: 0 acres Regen: 1,936 acres Inter: 214 acres	Stands in which regeneration harvest activity occurred from the 1960s through the 1970s currently comprise pole sized trees (5-10" dbh). Stands of intermediate harvest treatments include larger trees and more open-grown conditions and developing understories. The past regeneration harvest treatments (610 acres in the Jericho EHU and 2,469 in the Spotted Dog – Little Blackfoot EHU) currently provide hiding cover for mule deer and elk but it is unlikely that these areas are thermal cover today. The areas of intermediate harvest (16 acres in the Jericho EHU and 248 in the Spotted Dog- Little Blackfoot EHU), while there would be hiding cover characteristics in some areas, mainly contribute to thermal cover and foraging habitat today except in those areas where MPB associated mortality has resulted in a loss of canopy cover. Many of the roads that were built to facilitate timber harvest remain today and are reflected in the open road densities in the existing conditions.	Timber harvest activities that occurred from pre-1960 through the 1970s are reflected in the environmental baseline through R1-VMAP and FIA/Intensified Grid Data that reflect the current vegetation condition in the project area. Alternative 1 will not directly add to the past harvest activities. The ongoing mountain pine beetle outbreak will result in more regenerating stands. Snags would not be removed nor would aspen stands be enhanced. Alternatives 2 would result in 3,484 acres of regeneration harvest and 434 acres of intermediate harvest. The intermediate treatments would add to the amount of open stand structure and enhance growth and vigor in treated stands. Regeneration harvest would result in the creation of early successional stages that are no longer apparent on the landscape as a result of past timber harvest during this time period. Snags will be removed

Decade/ Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
1970 – 1979	Regen: 1,019 acres Inter: 50 acres	Regen: 1,143acres Inter: 50 acres	Habitat for species that depend on large tree structure and at least 30% canopy cover is available today in those areas for which intermediate harvest was implemented. These areas are generally composed of larger trees with developing understories that are beneficial to fisher, flammulated owls, goshawks, pileated and hairy woodpeckers, and martens. Regeneration harvest treatments currently provide foraging habitat for goshawks and roosting thickets for flammulated owls. For most other species, these areas have not yet developed structural characteristics to meet minimum habitat requirements. However, in areas where shelterwood treatments were utilized, habitat characteristics have sufficiently developed to provide habitat for species associated with forests that are greater than 30% canopy cover. Past harvest during this time period most likely resulted in snag reduction. Aspen would not have been cut but may have benefitted where competing conifers were removed. Ponderosa pine and other dry open forest types most likely were cut and/or may have also benefitted from timber harvest that created open stand conditions. Whitebark pine most likely was not impacted as it was not considered a merchantable species. Past regeneration harvest in lynx habitat (1,458 acres in di-03, 1,621 in di-04, and 133 in di-05) and intermediate harvest (212 acres in di-03, 51 in di-04, and none in di-05) during this time period is likely in the stem exclusion stage in lodgepole pine dominated stands.	during timber harvest and created during prescribed fire. Whitebark pine, where present, and aspen will be emphasized adding to the past cumulative effects that maintained or created these conditions. Alternative 3 would result in 1,856 acres of regeneration harvest and 434 acres of intermediate harvest. Results are the same as described above. All Alternatives would result in road decommissioning: Alt 2 results in 8.5 miles of decommissioning and Alt 3 3.4 miles. The decommissioning would reduce the impacts associated with past road construction.

Decade/ Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
1980 - 1989 1990 – 1999	Regen: 1,007 acres Inter: 65 acres Regen: 825 acres Inter: 87 acres	Regen: 1,845 acres Inter: 229 acres Regen: 839 acres Inter: 87 acres	Stands in which regeneration harvest activity occurred from the 1980s through the 1990s currently comprise young sapling sized trees (up to 5" dbh). Stands of intermediate harvest treatments include larger trees and more open grown conditions; however, the understories aren't as developed as those stands treated in earlier decades. The past regeneration harvest treatments (640 acres in the Jericho EHU and 2,044 in the Spotted Dog – Little Blackfoot EHU) most likely do not provide hiding cover in those stands treated in the 1990s; stands treated in the 1980s have developed sufficiently to screen elk and provide hiding cover capabilities. These regenerated areas currently do not provide thermal cover except in a few stands where shelterwood treatments were implemented. The areas of intermediate harvest (20 acres in the Jericho EHU and 296 in the Spotted Dog – Little Blackfoot EHU) may provide hiding cover characteristics in those stands that are generally more productive (i.e. cool, moist types); in the drier types stands have not developed to the extent that hiding cover characteristics are provided. Thermal cover has not yet developed in these stands. Many of the roads that were built to facilitate timber harvest remain today and are reflected in the open road densities in the existing conditions. Habitat for species that depend on large tree structure and at least 30% canopy cover is available today in those areas for which shelterwood, patch cut, or single tree selection regeneration harvest techniques were	Timber harvest activities that occurred from the 1980s through the 1990s are reflected in the environmental baseline through R1-VMAP and FIA/Intensified Grid Data that reflect the current vegetation condition in the Project area. Alternative 1 would contribute to the effects of past timber because forested stands that are killed by mountain pine beetles would revert to early seral stages similar to those early seral stands that were created as a result of regeneration harvest from the 1980s through today. There would be no additional areas of mature, open grown forests and the ongoing mountain pine beetle outbreak will result in more regenerating stands. Snags would not be removed nor would aspen stands be enhanced. Alternative 2 would result in 3,484 acres of regeneration harvest and 434 acres of intermediate harvest. The intermediate treatments would add to the amount of open stand structure and enhance growth and vigor in treated stands. Regeneration harvest would contribute to the early successional stands that were created during the 1980's and 1990s as a result of regeneration harvest. Snags will be removed during timber harvest and created during prescribed fire. Whitebark pine and aspen will be emphasized adding to the past cumulative effects that maintained or created these conditions. Alternative 3 would result in 1,856 acres of regeneration harvest and 434 acres of intermediate

Decade/ Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
			implemented. In areas of intermediate harvest, canopy cover and tree size have not yet developed mature forest structural characteristics since most of these treatments were liberation harvest. Past harvest during this time period most likely resulted in snag reduction. Aspen would not have been cut but may have benefitted where competing conifers were removed. Ponderosa pine and other dry open forest types most likely were cut and/or may have also benefitted from timber harvest that created open stand conditions. Whitebark pine most likely was not impacted as it was not considered a merchantable species. Past regeneration harvest in lynx habitat (896 in di-03, 1,779 in di-04, and 339 in di-05) and intermediate harvest (215 in di-03, 101 in di-04, and 24 in di-05) during this time period is likely in the early stand initiation stage or the stand initiation stage, winter snowshoe hare habitat.	harvest. Results are the same as described above. All Alternatives would result in road decommissioning: Alt 2 results in 8.5 miles of decommissioning, and Alt 3 3.4 miles. The decommissioning would reduce the impacts associated with past road reconstruction.
2000–2011	Regen: 48 acres Inter: 188 acres	Regen: 118 acres Inter: 1,279 acres	Stands in which regeneration harvest activity occurred from 2000 to 2011 are currently in the stand initiation phase with some large remnant trees remaining. Stands of intermediate harvest treatments include larger trees and more open grown conditions; however, the understories are not yet developed. The past regeneration harvest treatments (43 acres in the Jericho EHU and 16 in the Spotted Dog – Little Blackfoot EHU) most likely do not provide hiding cover in those stands treated in the 1990s; stands treated in the 1980s have developed sufficiently to screen elk and	Timber harvest activities that occurred from in the 2000s are reflected in the environmental baseline through R1-VMAP and FIA/Intensified Grid Data that reflect the current vegetation condition in the Project area. Alternative 1 would contribute to the effects of past timber because forested stands that are killed by mountain pine beetles would revert to early seral stages similar to those early seral stands that were created as a result of regeneration harvest from the 1980s through today.. There would be no additional

Decade/ Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
			provide hiding cover capabilities. These regenerated areas currently do not provide thermal cover except in a few stands where shelterwood treatments were implemented. The areas of intermediate harvest (150 acres in the Jericho EHU and 518 in the Spotted Dog – Little Blackfoot EHU) may provide hiding cover characteristics in those stands that are generally more productive (i.e. cool, moist types); in the drier types stands have not developed to the extent that hiding cover characteristics are provided. In most cases, habitat is not present for those species that depend on canopy closure greater than 30% except in those areas of regeneration harvest where large trees were left as either seed trees or as a shelterwood. Past regeneration harvest in lynx habitat (16 in di-03, 32 in di-04, and 248 in di-05) and intermediate harvest (421 in di-03, 188 in di-04, and 602 in di-05) during this time period is likely in the early stand initiation stage Past harvest during this time period most likely resulted in snag reduction. Aspen would not have been cut but may have benefitted where competing conifers were removed. Ponderosa pine and other dry open forest types most likely were cut and/or may have also benefitted from timber harvest that created open stand conditions. Whitebark pine most likely was not impacted as it was not considered a merchantable species.	areas of mature, open grown forests and the ongoing mountain pine beetle outbreak will result in more regenerating stands. Snags would not be removed nor would aspen stands be enhanced. Alternative 2 would result in 3,484 acres of regeneration harvest and 434 acres of intermediate harvest. The intermediate treatments would add to the amount of open stand structure and enhance growth and vigor in treated stands. Regeneration harvest would contribute to the early successional stands that were created during the 2000s as a result of regeneration harvest. Snags will be removed during timber harvest and created during prescribed fire. Whitebark pine and aspen will be emphasized adding to the past cumulative effects that maintained or created these conditions. Alternative 3 would result in 1,856 acres of regeneration harvest and 434acres of intermediate harvest. Results are the same as described above. All Alternatives would result in road decommissioning: Alt 2 results in 8.5 miles of decommissioning, and Alt 3 3.4 miles. The decommissioning would reduce the impacts associated with past road reconstruction.

Decade/ Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
Forestwide Hazardous Tree Removal and Fuels Reduction Project				
2012	Regen: 48 acres Inter: 188 acres	Regen: 59 acres Inter: 610 acres	The Roadside Hazard Tree Project primarily removed dead trees – snags – along roadsides; however, Forest Plan standards for snags are being met. The project "may impact individuals but won't cause a trend towards listing" for black-backed woodpeckers. Connectivity is affected by the removal of roadside screening; however, forested habitat exists away from treatment areas that will continue to provide wildlife corridors. Approximately 350 and 563 acres of hiding cover were treated in the Jericho and Spotted Dog – Little Blackfoot elk herd units, respectively and 11 acres of thermal cover on winter range are cover were treated in the Jericho elk herd unit. A Forest Plan site-specific amendment was prepared for this project. However, the analysis for this project concluded that "it is unlikely therefore that the small amount of elk habitat that will be removed under the Proposed Action would alter elk population numbers". The Roadside Hazard Tree Project affected lynx habitat in the following manner: 7, 46, and 35 acres of multistory hare habitat were removed in di-03, di-04, and di-05 respectively; 1 acre each of early stand initiation and/or stand initiation hare habitat were removed in di-03 and di-04, respectively. Habitat for several species has been altered by this project through the removal of dead and dying trees	Alternative 1 would contribute to the effects of past timber because forested stands that are killed by mountain pine beetles would revert to early seral stages similar to those early seral stands that were created as a result of regeneration harvest from the 1980s through today. Alternative 2 would result in the removal of 2,254 acres of hiding cover in the Jericho herd unit and 3,629 acres in the Spotted Dog – Little Blackfoot herd unit. Alternative 3 would result in the removal of 1,307 acres of hiding cover in the Jericho herd unit and 2,218 acres in the Spotted Dog – Little Blackfoot herd unit. Both alternatives would be additive in terms of cumulative effects relative to the Roadside Hazard Tree Removal Project. Alternative 2 would result in the treatment of 4,645 acres of lynx habitat; Alternative 3 would result in the treatment of 2,592 acres. These impacts will add cumulatively to those effects associated with the Roadside Hazard Tree Removal Project primarily through the creation of early stand initiation habitat. All action alternatives will result in the removal of some snags with potential impacts to woodpeckers adding to the effects of the Roadside Hazard Tree Removal Project. However, Forest Plan standards will be met for snags.

Decade/ Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
			and the subsequent reduction in dead wood habitat.	
Fuels Activities - Only those acres that changed the vegetation composition are reported; acres in parentheses are total acres of fuels activities. For example, burn piles are not included in acres that affect the composition of the vegetation.				
Pre-1960	0 acres	0 acres	Fuel activities that occurred during the 1960s and 1970s reduced surface fuels and created more open forest conditions. Many of these areas that have been treated have returned to 'pre-treatment' conditions especially In favorable growing conditions that accelerate understory development. Generally, fuel treatments of this period improved shrub understories and aspen development as well as creating additional snags. In some situations, down woody debris may have been consumed and structural diversity reduced.	Fuels activities that occurred from the 1960s through the 1970s are reflected in the environmental baseline through R1-VMAP and FIA/Intensified Grid Data that reflect the current vegetation condition in the Project area. Alternative 1 would not add to the amount of open conditions and would perpetuate understory development and surface fuel accumulations. Snags would not be removed under this Alternative. Shrub, grassland, and aspen communities would not be enhanced either. Alternatives 2 and 3 would result in the prescribed burning of 1,050 and 606 acres respectively, creating additional open areas and in the short term affecting understory development and surface fuels accumulations. Treatments would add to landscape heterogeneity and resiliency of stands and contribute to the amount of snags in the project area which are already plentiful. Treatments would also promote aspen, whitebark pine, and shrub and grassland communities adding to some of the past effects on these habitats.
1960-1969	330 acres (330)	530 acres (606)		
1970-1979	201 acres (268)	200 acres (268)		
1980-1989	0 acres (552)	6,237 acres (7,338)	Fuel activities that occurred during the 1980s and 1990s have also reduced surface fuels and created more open forest conditions. Some of these areas that have been treated have returned to 'pre-treatment' conditions. Fuel activities have promoted shrub and aspen communities.	
1990-1999	64 acres (1,453)	1,203 acres (2,966)		
2000 to 2014	19 acres (255)	858 acres (763)	Fuel activities that occurred from 2000 to present have generally resulted in improved grass and shrublands as well as in the creation of snags. However, these areas are generally more open than areas of past fuel treatments.	

Decade/ Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
Private land timber harvest				
2005–2014	74 acres	1,948 acres	Regeneration harvest that occurred during this time period has resulted in early successional habitat with some large trees remaining. Timber harvest on private land most likely did not result in any snag retention.	Alternative 1 would contribute to the effects of past timber because forested stands that are killed by mountain pine beetles would revert to early seral stages similar to those early seral stands that were created as a result of regeneration harvest from the 1980s through today. The action Alternatives would add to the amount of open stands created by intermediate harvest on private land and would add to the early successional habitat created by regeneration harvest. Snag reduction associated with all action Alternatives would add cumulatively to snag reduction associated with private timber harvest.

Table D-E-1a. Additional Past Activities/Projects (Not Vegetation or Fuel Related)

Activity/Project Name	Decade / Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
Banner Creek Bridge #1	2014		Deck and curb replacement.	There are no measurable effects to wildlife.	There are no anticipated cumulative effects.
EPA-Little Lilly/Lee Mountain Complex removal and reclamation	2013		Mine waste removal and reclamation. Also installed groundwater monitoring wells to evaluate arsenic levels pre and post removal.	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Sally Anne Road	2010-2011		Aquatic Organism Passage Legacy Road: Road 527 replace undersized Sally Anne culvert with a 12' span by 4' rise by 40' long three sided concrete box culvert.	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. The project also should have improved riparian conditions.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
National Guard High Elevation Helicopter Landing Training	2010	MT National Guard requested to conduct helicopter pilot training at various peaks on the Helena National Forest as well as water bucket training. Red Mtn., Treasure Mtn., Negro Mtn., Hog Back, and Lava Mtn.		Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
MT Army National Guard	2010		Permit for winter survival training on MacDonald Pass.	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Tree Farmer Road	2010		Resource Advisory Council: Phase I Road 314 reconstruct 2.4 miles; 4" new surface aggregate for 1.8 miles; construct 2 drain dips; install 2	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the

Activity/Project Name	Decade / Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
			new 18" culverts Phase II Road 314 reconstruct road for 1 mi.; new surface aggregate for 1.2 miles; construct 2 drain dips		displacement effects associated with this past project.
Minnehaha Road	2010	Legacy Road: Road 527 recondition 4.9 miles, construct 3 drain dips; 4" new surface aggregate on 1.15 miles; install 36 new 18" culverts; replace 2 undersized culverts w/ lager culvert	Legacy Road: Road 527 recondition 4.9 miles, construct 3 drain dips; 4" new surface aggregate on 1.15 miles; install 36 new 18" culverts; replace 2 undersized culverts w/ lager culvert	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Hahn Creek Roads	2010	American Restoration & Recovery Act: Road 495 replace undersized Hahn Creek culvert w/ a 123" span by 83" rise by 40' corrugate steel pipe arch. Road 1856 replace undersized culvert w/ a 123" span by 83" rise by 40' corrugate steel pipe arch		Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Telegraph Creek Roads	2009-2010	American Restoration & Recovery Act: Road 495 reconstruct 4.1 miles; 4" new surface aggregate for 4.1 miles; dust palliative 1.4 miles; install 24 new 18" culverts; replace 5 undersized culverts w/ larger culverts Road 1856 install 7 new culverts; replace 4 undersized culverts w/ larger culverts	American Restoration & Recovery Act: Road 495 reconstruct 4.1 miles; 4" new surface aggregate for 4.1 miles; dust palliative 1.4 miles; install 24 new 18" culverts; replace 5 undersized culverts w/ larger culverts Road 1856 install 7 new culverts; replace 4 undersized culverts w/ larger culverts Road 1857 install 7 new culverts	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. Also, the location along an open road system dilutes its impact for most species.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.

Activity/Project Name	Decade / Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
		Road 1857 install 7 new culverts			
Little Blackfoot Roads	2010	American Restoration & Recovery Act: Road 227 recondition 6 miles; 4" new surface aggregate for 6 miles; dust palliative 6 miles; install 8 new 18" culverts; install 1 new 24" culvert; raise roadbed 2' for 200' just south of Hat Creek to protect roadway during spring runoff	American Restoration & Recovery Act: Road 227 recondition 6 miles; 4" new surface aggregate for 6 miles; dust palliative 6 miles; install 8 new 18" culverts; install 1 new 24" culvert; raise roadbed 2' for 200' just south of Hat Creek to protect roadway during spring runoff	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. Also, the location along an open road system dilutes its impact for most species.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Thomas Brothers Lumber	December 2009	Hat Creek & Little Blackfoot – Commercial Road Use Permit		Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. Also, the location along an open road system dilutes its impact for most species.
U.S. Hwy 12 Improvements	October 2009		Removal of vegetation (4 to 5 log truck loads), installation of guard rails, erosion protection, and sanding/salting.	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. Also, the location along an open road system dilutes its impact for most species.	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. Also, the location along an open road system dilutes its impact for most species.
Continental Divide Trailhead (CDNST)	July 2009	Construction of approximately 7 miles of new CDNST to reroute the trail to the Continental Divide. This new segment connects to the Bison Creek Area where the CDNST trail leads onto the neighboring Beaverhead-Deerlodge National Forest.	Construction of approximately 7 miles of new CDNST to reroute the trail to the Continental Divide. This new segment connects to the Bison Creek Area where the CDNST trail leads onto the neighboring Beaverhead-Deerlodge National Forest.	New trail construction on the Helena NF (1) substitutes new foot trail for routes that formerly followed roads (open and closed) or (2) moves existing trail out of problematic locations (stream bottoms, wet meadows, etc.). Given the relatively low-key use, effects are usually beneficial or neutral for wildlife except during project implementation.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
North Pasture	March	Installation of this fence		Redistribution of cattle should	There are no anticipated cumulative

Activity/Project Name	Decade / Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
Division Fence	2006	enabled the permittee to get better cattle distribution in the eastern portion of the pasture that did not receive very much use until this fence was installed. In addition, it helped keep cattle off the Frog Pond areas as well as off Elliston Creek. It also shortened the season of use for two parts of the pasture		benefit wildlife species especially in riparian areas.	effects.
Continental Divide Trailhead & Connector Trail	August 2005		Construction of trailhead and approximately ½ mile of new road to access the trailhead and approximately ½ mile of connector trail to tie in with the existing Continental Divide National Scenic Trail	New trail construction on the Helena NF (1) substitutes new foot trail for routes that formerly followed roads (open and closed) or (2) moves existing trail out of problematic locations (stream bottoms, wet meadows, etc.). Given the relatively low-key use, effects are usually beneficial or neutral for wildlife except during project implementation.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
North Western Corporation Moose Creek Utility Extension	February 2004		This decision authorized the North Western Corp. the installation, use & maintenance of a 0.6kV buried power line in the Moose Crk drainage. This action includes a 30-foot power line & power pole.	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Jericho Mountain Continental Divide Trail Reroute	April 2003	This decision implemented new trail construction of approximately 2.2 miles of the CDNST #337 to align the trail to the Continental Divide as per Agency	This decision implemented new trail construction of approximately 2.2 miles of the CDNST #337 to align the trail to the Continental Divide as per Agency guidance.	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with

Activity/Project Name	Decade / Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
		guidance.			this past project.
Telegraph Cr. Rd. 495 Surfacing and Drainage	2000	Road 495 recondition 8.4 miles; 12 inches grid rolled aggregate for 2.25 miles; 4 inches surface aggregate for .48 miles; construct 9 drain dips.		Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. Also, the location along an open road system dilutes its impact for most species.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Commercial road use permits	1994-2000	These permits were issued for short term commercial use of Forest Service Roads. [D&G Lumber (2000), Minihaha Creek (1997), Bullion Parks/Telegraph Creek (1994), Stowe (1994),		Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Recreational special use permit	1998–2002	These permits are issued for short term use on public lands for recreational activities/gatherings. MT DOC (1998), Society for Creative Anachronism (2002), Elliston VFD (1998),		Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Monarch Creek Trail Reconstruction	June 1998	Construction/ reconstruction of the non-motorized Monarch Creek Trail #362 in the Electric Peak Roadless Area. Work includes installation of 65 water-bars, 3 wooden stock bridges, and 3 French Drains; reconstruction of 5 switchbacks; construction of a turnpike approximately 25 meters long, obliterate approximately 727 meters of abandoned trail and	Construction/ reconstruction of the non-motorized Monarch Creek Trail #362 in the Electric Peak Roadless Area. Work includes installation of 65 water-bars, 3 wooden stock bridges, and 3 French Drains; reconstruction of 5 switchbacks; construction of a turnpike approximately 25 meters long, obliterate approximately 727 meters of abandoned trail and grub approximately 560 meters of	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.

Activity/Project Name	Decade / Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
		grub approximately 560 meters of existing trail.	existing trail.		
Treasure Mountain Snowmobile Trail Relocation	November 1997	This decision approved relocating segments of the groomed snowmobile trail in the Treasure Mountain area. Segments included Little Blackfoot River Road, FSR 1857-A1, FSR 1857, FSR 1857-D1, FSR 1859 to the Telegraph Creek Road. Another section starts on FSR 1857 at the junction with FSR 1857-B1 and proceeds on FRS 157-B1 to Ontario Creek Road 123.		No impacts to wildlife associated with the re-routing.	There are no anticipated cumulative effects
Montana Bureau of Mines and Geology Seismic Monitoring Station	July 1995		Installation, use, and maintenance on a seismic monitoring station on lands administered by the Helena Ranger District.	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects
Issuance for Mining Plan of Operations	1989-1993	Irish Hill-Phleps Dodge Mining Co. (1993): exploratory drilling on ridge between Trout Creek and Spotted Dog Creek drainages; Clemmer Gulch & O'Keefe Mountain (1992): headwaters of Telegraph & Ontario Creek drainages, eight drill sites with 60x60 foot drill pads with approcimately 2 acres of surface disturbance; Phelps Dodge Karger II (1990): exploratory drilling	Irish Hill-Phleps Dodge Mining Co. (1993): exploratory drilling on ridge between Trout Creek and Spotted Dog Creek drainages; Clemmer Gulch & O'Keefe Mountain (1992): headwaters of Telegraph & Ontario Creek drainages, eight drill sites with 60x60 foot drill pads with approcimately 2 acres of surface disturbance; Phelps Dodge Karger II (1990): exploratory drilling with reclamation work; Karger Lode (1989): exploratory drilling	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects.

Activity/Project Name	Decade / Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
		with reclamation work; Karger Lode (1989): exploratory drilling with reclamation work; Phelps Dodge Mining Co. (1989): EA conducted	with reclamation work; Phelps Dodge Mining Co. (1989): EA conducted		
Minnehaha Trail Project	September 1991		Decision authorized the development of a trail route between the Moose Creek work center and Forest Road 527 using an old abandoned railroad bed. Activities included construction of a bridge, installing a culvert, pruned trees and shrubs, removed rocks, and relocated power poles off the railroad bed.	The new trail followed an existing route in an area with relatively high levels of human activity. It has not introduced new disturbance. Effects to wildlife were minimal.	There are no anticipated cumulative effects.
Hat Creek Cattle and Horse Allotment	November 1990		This was an updated allotment management plan for the Hat Creek C&H allotment. This involved the incorporation of two sections of land from the adjacent Spotted Dog/Trout Creek allotment and the implementation of a three pasture deferred rotation system. Approximately 5 miles of barbed wire fence was also constructed.	This retained the basic pattern of competition for forage on summer range between cattle and native grazers, but continued the trend of reducing competition in key areas and improving range condition with each AMP revision.	Alternative 1 could contribute cumulative effects due to forage conditions that are expected to improve in forested understories as a result of mountain pine beetle related mortality. The action alternatives could also contribute cumulatively as a result of treatments in dead and dying stands that will open up those stands thereby improving forage.
MacDonald Pass Cattle and Horse Allotment	November 1990		This was an approved updated allotment management plan for the MacDonald Pass C&H allotment. This involved the implementation of a three pasture deferred rotation system and construction of approximately 0.5 miles of	This retained the basic pattern of competition for forage on summer range between cattle and native grazers, but continued the trend of reducing competition in key areas and improving range condition with each AMP revision.	Alternative 1 could contribute cumulative effects due to forage conditions that are expected to improve in forested understories as a result of mountain pine beetle related mortality. The action alternatives could also contribute cumulatively as a result of treatments in dead and dying stands

Activity/Project Name	Decade / Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
			barbed wire fence.		that will open up those stands thereby improving forage.
Rimini Abandoned Mine Reclamation Project Drilling of Water Quality Monitoring Well	July 1988		Approved a plan to drill a well for sampling groundwater quality near Ten-Mile Creek,	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Road Drainage Repairs	Completed 2009	Roads 123, 227, 495, 495-D1, 495-E1, 527, 1856, 1856-D1, 1856-E1, 1856-J1, 1857, 1857-D1, 1863, 1863-A1 and 4104; Blading 43.2 miles, construct drain dips 231	Roads 123, 227, 495, 495-D1, 495-E1, 527, 1856, 1856-D1, 1856-E1, 1856-J1, 1857, 1857-D1, 1863, 1863-A1 and 4104; Blading 43.2 miles, construct drain dips 231	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. Also, the location along an open road system dilutes its impact for most species.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Kading Campground	2010-2011		A culvert near the campground entrance has been replaced with a bridge that meets 100-year flood requirements. Beetle infested hazard trees have been removed in Kading CG & around Kading Cabin for visitor safety. Shrubs & trees have been planted to improve aesthetics. Camping spurs have been lengthened & widened w/ some converted to pull-through spurs. New picnic tables and fire rings have been installed throughout the campground & at Kading Cabin to American Disability Act (ADA) standards. Pathways to the existing vault toilets have been widened & improved to	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. The project also should have improved riparian conditions. See Forestwide Hazardous Tree Removal and Fuels Reduction Project above.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project. See Forestwide Hazardous Tree Removal and Fuels Reduction Project above.

Activity/Project Name	Decade / Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Past Activity	Contribution of Project to Cumulative Effects
			ADA standards. Curb stops have been installed & a new visitor information kiosk has been erected at the campground entrance. A single-panel kiosk has been installed at the nearby Blackfoot Meadows Trailhead.		
Kading Road	2011		Aquatic Organism Passage Legacy Road: Road 227 replace undersized Kading Creek culvert with a 30' span by 26' wide concrete bridge	Possible temporary displacement of wildlife during project implementation; however, wildlife use of the area should have resumed. The project also should have improved riparian conditions.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.
Spotted Dog Land Purchase	2010		In 2010 the State Of Montana purchased 27,616 acres of land from Rock Creek Cattle Co. The land is now being managed by Montana Fish Wildlife and Parks as a Wildlife Management Area.	This purchase has long term beneficial effects to wildlife including elk and mule deer; short term effects include disturbance associated with open roads that were otherwise unavailable to the public while this parcel was in private ownership.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project.

Table D-E-2. Ongoing/Present Activities

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
Private road special use permits	Ongoing	These permits were issued to private landowners to access their private inholdings on roads that are primarily not open to public use, some have seasonal closures. They are located throughout the project and combo boundary. Some may have had road improvements, and all involve private maintenance.	These permits were issued to private landowners to access their private inholdings on roads that are primarily not open to public use, some have seasonal closures. They are located throughout the project and combo boundary. Some may have had road improvements, and all involve private maintenance.	These permits cumulatively increase the total motorized access across the Forest. Displacement of wildlife is periodic, temporary, and very local. The connected actions on the private land (human residence) are inevitably more disruptive than the fleeting human presence on the access routes.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.
Recreation Residence Tracts	Ongoing		Residences are authorized under a 20-year Special Use Permit. Lots are typically 1 acre or less in size. These cannot be utilized as a primary residence and can only be used less than six months in a calendar year. One recreation residence is permitted within the Moose Creek Villa Tract that falls within the combo boundary.	Periodic but long-term centers of human activity in otherwise suitable wildlife habitat, resulting in local species such as elk, deer, bears, bobcats, goshawks, etc. altering habitat use patterns to accommodate the residences. Those at Forest Heights (just to the north of Highway 12) are the most problematic as they lie in an area frequently used by wide-ranging species moving along the Continental Divide.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.
2 Campgrounds 1 Day Use Areas 2 Rental Cabins	Ongoing		Campgrounds are open seasonally from May through October and include: Kading	Effects are variable, depending on the type of facility and its location. All represent focal points of human activity that tend to deter wildlife species averse to human presence.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
			and Moose Creek. Day use areas: Continental Divide Trailhead. Rental Cabins: Kading and Moose Creek	Most are active primarily from late spring through mid-fall. Campgrounds are most disruptive because of their size and regular use. The Moose Creek cabin is adjacent to a busy County road and adds little to that existing condition. Use of trailheads is generally low-key and sporadic.	which would add to the displacement effects associated with this ongoing project.
Routine Use and Maintenance of Non-motorized Forest Trails for Summer Use	Ongoing	There are some non-motorized trails in the Ten Mile Drainage including the Switchback Ridge Trail. Other areas: Continental Divide National Scenic Trail, Little Blackfoot Meadows trail, Monarch, and Larabee Gulch. These trails receive routine maintenance and clearing of debris annually		Trail work generates temporary displacement of wary wildlife species from around the moving work sites. Disruption is of short duration and low intensity. Impacts are minor. Trail use facilitated by the maintenance is low-key and sporadic.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.
HMO closures on the Helena Ranger District	On-going	Access controls or the permanent closure of mine opening on the Helena Ranger district to ensure public safety. Closures will take place at multiple locations across the Helena Ranger District. More expected closures in 2015 and beyond.		Temporary local displacement of wildlife from the immediate site—minor impact. Retention of habitat opportunity for bats.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.
Routine Use and Maintenance of Forest trails and areas for over-snow winter use	Ongoing	The Macdonald Pass cross country ski trails are used throughout the winter and are regularly groomed by the Last Chance Nordic Ski Club. The formerly Quigley Group Use Area below the pass is sometimes used by cross-country skiers. The formerly Quigley Group Use Area/Campground is sometimes used by cross-country skiers. The former Moose Creek Group Use Area is utilized as a snowmobile trailhead accessing a trail system that connects to Bullion Parks over to Jericho Mountain and down along the Hahn Creek Road tying into the Little Blackfoot Road and Kading Cabin /Limburger Springs areas. There is		The MacDonald Pass ski sites (including Quigley Group Use Area and just to the north of Highway 12) are in an area of relatively high year-round human activity. Use is confined to predictable routes: some wildlife species detour around, others take advantage of the packed trails, some range through only at night, and others keep on with business as usual. The Moose Creek trailhead is a compact area in a road corridor with relatively high traffic levels. The trail system radiating out from the trailhead, however, is dispersed and extensive.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
		also a snowmobile trailhead located off of the Little Blackfoot Road near the Lions Sunshine Camp. Please refer to the Divide Travel Plan alternative maps for specific trail locations and areas open to over-snow use.			
MacDonald Vista Point	Ongoing		This vista point is located to the south of MacDonald Pass and is a popular observation site. It accesses the Continental Divide National Scenic Trail. During the winter months, this area has been utilized for non-motorized environmental education programs.	This project adds to the relatively concentrated human activity and development in the vicinity of MacDonald Pass—which lies near the center of a travel corridor/linkage zone for a number of wide-ranging species.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.
Special Recreation Use Permit Helena Lion's Sunshine Camp	Ongoing	This authorization is classified as an Organizational Camp issued to the Helena Lion's Club to manage and operate the Lion's Sunshine Camp located in the Blackfoot River drainage on NF lands. The camp provides recreational opportunities in a rural environment to families and youth oriented groups. This camp has been under a special use permit since 1943. (use		This project has the potential to disrupt wildlife movement; however, it's been in place for so long that most, if not all, wildlife have adjusted their movement patterns.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
		code 113)			
Electronic Sites south of Hwy 12 on MacDonald Pass	Ongoing		The south site retains 1 authorized airport beacon near the Vista Point overlook.	Adds to the relatively concentrated human activity and development in the vicinity south of MacDonald Pass—which lies near the center of a travel corridor/linkage zone for a number of wide-ranging species.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.
Routine Use and Maintenance of Open Forest Roads	Ongoing	Routine maintenance not necessarily annually includes blading, brushing, culvert cleanout, etc. Use of Forest Roads varies by route and season.	Routine maintenance not necessarily annually includes blading, brushing, culvert cleanout, etc. Use of Forest Roads varies by route and season.	A series of temporary local displacement episodes for local wildlife species. Its location along open road system dilutes its impact for most species: minor impact.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.
Power Utilities, Phone Utilities, Yellowstone Gas Pipeline, & Touch America Fiber Optic Lines	Ongoing		Utility lines are authorized under the terms of a special use permit. The gas and fiber optic line are co-located. Routine maintenance are accepted and understood under the terms of the permit. Located at & near MacDonald Pass.	Temporary, low-profile disturbance of local wildlife. Minimal impact.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.
3 Natural Resource Conservation Service Snotel Sites under a special use permit	Ongoing		The NRCS maintains three sites for monitoring snow depth and water content under a special use permit. They are located near	No measureable effects to wildlife.	There are no anticipated cumulative effects.

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
			Ten Mile Creek.		
Timber Harvest on Private or other non FS lands.	Ongoing	Timber harvest may occur on private lands on unspecified acres, primarily tractor logging within the planning area.	Timber harvest may occur on private lands on unspecified acres, primarily tractor logging within the planning area.	This activity more or less mimics the effects of Forest timber harvest/fuels treatment in the 2010-2014 period. Most recent harvest has been of dead trees: thus reducing short-term hiding cover, but having little effect on snowshoe hare habitat or goshawk nesting habitat. Snag numbers decrease locally.	Alternative 1 would contribute to the effects of past timber because forested stands that are killed by mountain pine beetles would revert to early seral stages similar to those early seral stands that were created as a result of regeneration harvest from the 1980s through today. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project. The action alternatives would also removing short term hiding cover, lynx habitat, and goshawk nesting habitat.
Noxious Weed Treatment on National Forest Lands	Ongoing	Herbicide treatment is primarily along roads and in patches that are accessible to mechanized equipment (spraying with ATVs) and/or by hand, biological (insects), goats/sheep, and aerial spraying. Treatment areas are identified in the EIS/ROD and are continually updated and treated as new infestations are located.	Herbicide treatment is primarily along roads and in patches that are accessible to mechanized equipment (spraying with ATVs) and/or by hand, biological (insects), goats/sheep, and aerial spraying. Treatment areas are identified in the EIS/ROD and are continually updated and treated as new infestations are located.	Over the long term, these operations gradually improve the quality of foraging habitat for native species. Temporary displacement of some local species during active spraying operations.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.
Grazing Activities on Private Lands	Ongoing	Grazing of cattle, sheep and horses on private lands within the Telegraph Project and	Grazing of cattle, sheep and horses on private lands within the Telegraph Project	This activity adds to the competition for forage on summer range between domestic livestock and native grazers (esp. elk and mule deer)—but not to the point that summer range	There are no cumulative impacts associated with Alternative 1. The action alternatives include prescribed fire treatments that will impact grass and

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
		Combo boundary. This may result in impacts to riparian vegetation, stream banks, and upland vegetation. There will also be results to vegetation management, forage production, and economic well-being.	and Combo boundary. This may result in impacts to riparian vegetation, stream banks, and upland vegetation. There will also be results to vegetation management, forage production, and economic well-being.	conditions are limiting for native species.	shrublands in the short term while enhancing these communities in the long term. There may be some short term cumulative impacts associated with the prescribed burning relative to grazing activities.
Dog Creek Grazing Allotment	Ongoing		1,729 acres withiin the combo boundary; 80 permitted cow/calf pair; 92 permitted use days; start of permit is in July; resides west of the divide for season long grazing. Data collected 2009. Grazing permits are issued on a 10 year cycle.	This activity adds to the competition for forage on summer range between domestic livestock and native grazers (esp. elk and mule deer)—but not to the point that summer range conditions are limiting for native species.	There are no cumulative impacts associated with Alternative 1. The action alternatives include prescribed fire treatments that will impact grass and shrublands in the short term while enhancing these communities in the long term. There may be some short term cumulative impacts associated with the prescribed burning relative to grazing activities.
Hat Creek C&H Grazing Allotment	Ongoing	74 acres in the project area, 8,207 within combo boundary;140 permitted cow/calf pair; 102 permitted use days; start of permit in late June; resides west of the divide and is under a deferred grazing system. Data collected 2009 Grazing permits are issued on a 10 year cycle.	74 acres in the project area, 8,207 within combo boundary;140 permitted cow/calf pair; 102 permitted use days; start of permit in late June; resides west of the divide and is under a deferred grazing system. Data collected 2009 Grazing permits are	This activity adds to the competition for forage on summer range between domestic livestock and native grazers (esp. elk and mule deer)—but not to the point that summer range conditions are limiting for native species.	There are no cumulative impacts associated with Alternative 1. The action alternatives include prescribed fire treatments that will impact grass and shrublands in the short term while enhancing these communities in the long term. There may be some short term cumulative impacts associated with the prescribed burning relative to grazing activities.

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
			issued on a 10 year cycle.		
MacDonald Pass Grazing Allotment	Ongoing		3,077 acres within the combo boundary; 104 cow/calf pair; 115 permitted use days; start of permit in late June; resides on both sides of the divide and is under a deferred grazing system. Grazing permits are issued on a 10 year cycle.	This activity adds to the competition for forage on summer range between domestic livestock and native grazers (esp. elk and mule deer)—but not to the point that summer range conditions are limiting for native species.	There are no cumulative impacts associated with Alternative 1. The action alternatives include prescribed fire treatments that will impact grass and shrublands in the short term while enhancing these communities in the long term. There may be some short term cumulative impacts associated with the prescribed burning relative to grazing activities.
Slate Lake C& H Grazing Allotment	Ongoing	827 acres in the project area, 9,331 acres within the combo boundary; 205 permitted cow/calf pair; 92 permitted use days; start of permit in mid June; deferred grazing system; resides west of the divide. Data collected 2009. Grazing permits are issued on a 10 year cycle.	827 acres in the project area, 9,331 acres within the combo boundary; 205 permitted cow/calf pair; 92 permitted use days; start of permit in mid June; deferred grazing system; resides west of the divide. Data collected 2009. Grazing permits are issued on a 10 year cycle.	This activity adds to the competition for forage on summer range between domestic livestock and native grazers (esp. elk and mule deer)—but not to the point that summer range conditions are limiting for native species.	There are no cumulative impacts associated with Alternative 1. The action alternatives include prescribed fire treatments that will impact grass and shrublands in the short term while enhancing these communities in the long term. There may be some short term cumulative impacts associated with the prescribed burning relative to grazing activities.
Spotted Dog Grazing Allotment	Ongoing		8,453 acres within the combo boundary; 245 permitted cow/calf pair; 102 permitted use days; start of permit is in July; resides west of the	This activity adds to the competition for forage on summer range between domestic livestock and native grazers (esp. elk and mule deer)—but not to the point that summer range conditions are limiting for native species.	There are no cumulative impacts associated with Alternative 1. The action alternatives include prescribed fire treatments that will impact grass and shrublands in the short term while enhancing these communities in the long term. There may be some short term

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
			divide for season long grazing. Data collected 2009. Grazing permits are issued on a 10 year cycle.		cumulative impacts associated with the prescribed burning relative to grazing activities.
Tenmile Priest Pass C&H Grazing Allotment	Ongoing	1,730 acres in project area, 5,816 acres within the combo boundary; 200 permitted cow/calf pair; 107 permitted use days; start of permit mid-June; rest rotation; resides on both sides of the divide. 2003 Contract for the Priest Pass and Black Mountain allotments, range conditions and weed inventories were completed under a contract. In 2009 proper functioning condition was reached on Mike Renig. Grazing permits are issued on a 10 year cycle.	1,730 acres in project area, 5,816 acres within the combo boundary; 200 permitted cow/calf pair; 107 permitted use days; start of permit mid-June; rest rotation; resides on both sides of the divide. 2003 Contract for the Priest Pass and Black Mountain allotments, range conditions and weed inventories were completed under a contract. In 2009 proper functioning condition was reached on Mike Renig. Grazing permits are issued on a 10 year cycle.	This activity adds to the competition for forage on summer range between domestic livestock and native grazers (esp. elk and mule deer)—but not to the point that summer range conditions are limiting for native species.	There are no cumulative impacts associated with Alternative 1. The action alternatives include prescribed fire treatments that will impact grass and shrublands in the short term while enhancing these communities in the long term. There may be some short term cumulative impacts associated with the prescribed burning relative to grazing activities.
Northwestern Energy Powerline	Ongoing		Hazard tree removal along powerline corridor in Tenmile drainage and	Loss of snags along powerline corridors; coarse woody debris is generally left in place. One of several projects removing hiding cover & standing dead tree habitat 5-10 years before these components would have been lost by	Alternative 1 would contribute to the effects of past timber because forested stands that are killed by mountain pine beetles would revert to early seral stages similar to those early seral stands that

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
			MacDonald pass.	natural attrition.	were created through powerline maintenance. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this past project. The action alternatives would also removing short term hiding cover, lynx habitat, and goshawk nesting habitat.
EPA- Luttrell Repository	Ongoing		2014 & 2015: A two year work plan is being implemented so that the cost of opening Luttrell Repository and treatment of waste water resultant from opening the repository can be saved and used to further remedial actions: this approach requires consolidation of mine waste into stockpiles to be hauled to Luttrell Repository in 2015. In 2014, EPA conducted clearing & grubbing so as to establish transport roads for Off Road Waste Hauling Vehicles at the National Extension mine waste site (most accessible from the Basin Side and near the ridge) and the Bunker Hill mine	This adds to the other human activity in the vicinity of the Continental Divide which is used as a travel corridor/linkage zone for a number of wide-ranging species. This would result in temporary displacement of wildlife using this corridor.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this ongoing project.

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
			group (located South of Rimini).		
Helena Mineral Society-Crystal Mine	Ongoing	Sally Ann Creek. T8N, R6W, Section 2	Sally Ann Creek. T8N, R6W, Section 2	Potential disturbance to bats that may inhabit the mine.	There are no anticipated cumulative effects.
Personal Use Firewood and Post and Pole permits	Ongoing	Firewood gathering occurs across the forest.	Firewood gathering occurs across the forest.	Firewood cutting removes dead trees along roadsides and reduces snag availability in the short term and down woody debris in the long term.	As trees continue to die in the project area due to mountain pine beetle mortality and as they ultimately fall over, Alternative 1 will slightly add to the effects of firewood removal on standing snag habitat. The action alternatives will result in snag reductions within respective treatment units; although Forest Plan standards will be met and snags will remain abundant in the Project area, there will be some cumulative impacts in conjunction with firewood retrieval.
University of Montana-Helena Outfitter/Guide Permit	Ongoing	Permit issued for a variety of guided recreational activities in numerous locations on the Helena ranger district.	Permit issued for a variety of guided recreational activities in numerous locations on the Helena ranger district.	No effects to wildlife.	There are no anticipated cumulative effects.
Red Mountain Flume/Chessman Reservoir Project	Ongoing		Currently implementing a fuel reduction project around Chessman Reservoir and the associated water flume infrastructure. Treatments are designed to reduce hazardous fuels around existing infrastructure. Approximately 500	The Red Mountain Flume/Chessman Reservoir Project is primarily removing dead trees – snags – along the Chessman Reservoir and Flume; however, Forest Plan standards for snags are being met. The project treats approximately 332 acres in the area around Chessman Reservoir that currently serves as the main movement corridor through the project area. All dead trees and the bulk of the woody debris would be removed from a broad swath around the reservoir and around some of the large meadow to the south, leaving open-grown	Alternative 1 would contribute to the effects of the Red Mountain Flume project because forested stands that are killed by mountain pine beetles would revert to early seral stages similar to those early seral stands that were created as a result of regeneration harvest in the Red Mountain Flume project area. Alternative 2 would result in the removal of 2,254 acres of hiding cover in the Jericho herd unit. Alternative 3 would result in the removal of 1,307 acres of hiding cover in the Jericho herd unit.

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
			total acres of fuels treatments and harvest are expected.	forest of widely varying density, (depending on the distribution of green trees that have survived the beetles. The forest would be allowed to regenerate but would be managed for relatively wide spacing of overstory trees and no effective ladder fuels. The loss of cover in riparian areas associated with the project may be disruptive to small mammals dependent on riparian areas. Boreal toads may be affected via effects to upland habitats which would result in a reduction of future woody debris accumulation. Logs and other debris provide some of the cover adult toads use when moving through upland areas in summer. Immediate post-project environments would be similar in treated and untreated sites. But over the next 15 years, treated sites would accumulate much less deadfall than untreated areas—exposing toads to slightly more risk when ranging away from riparian areas. Approximately 4 acres of hiding cover are affected in the Jericho herd unit; most of the project is outside of and to the east of the Jericho EHU so effects to elk in general associated with this project are minimal. Twenty two acres of lynx multistory hare habitat are treated in di-05 which overlaps with the Telegraph project. Twelve acres of early stand initiation are treated; and 366 of 'other' habitat which includes mid-seral and stem exclusion stands.	Both alternatives would add cumulatively to the effects associated with the Red Mountain Flume project. Neither action alternative would result in the removal of any lynx habitat in LAU di-05; therefore there should be no cumulative effects associated with the Telegraph project relative to the Red Mountain Flume project. All action alternatives will result in the removal of some snags with potential impacts to snag associated species adding to the effects of the Red Mountain Flume project. However, Forest Plan standards will be met for snags.
Monarch Mineral Sampling	Ongoing	Mineral sampling and exploration activities to collect samples for testing from unprocessed mine material piles.	Mineral sampling and exploration activities to collect samples for testing from unprocessed mine	Potential disturbance to local wildlife.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement

Activity/Project Name	Decade/Year	Telegraph Project Area	Combined Boundary (Includes Project Area)	Effects of Ongoing Activity	Contribution of Project to Cumulative Effects
			material piles.		effects associated with this ongoing project.

Table D-E-3. Reasonably Foreseeable Activities

Activity/ Name	Estimated Implementation	Scope of Activity	Effects of Reasonably Foreseeable Activity	Contribution of Project to Cumulative Effects
Divide Travel Planning	Estimated Implementation 2015	The HNF is proposing changes to the existing roads and trail systems on National Forest System lands in the North Divide planning area. This plan will provide for a variety of motorized and non-motorized winter recreation opportunities.	Alternative 5 modified would be beneficial to key wildlife species (esp. elk, deer, black bears, grizzly bears, lynx, wolves, wolverines, goshawks, pileated woodpeckers, marten) because of proposed road closures, elimination of unauthorized motor trails, snowmobile area closures, and clarification of the authorized snowmobile route system. Open route densities would decrease, the size of elk security areas and patches of unroaded habitat in general would increase, and disruption of a number of key wildlife sites by motor vehicles would be terminated.	All alternatives would not add cumulatively to the Divide Travel Plan. Although the Divide Travel Plan is an open/closed decision, the results of that decision would be used to determine future decommissioning opportunities. The action alternatives would add cumulatively to the Divide Travel Plan relative to those roads that would be used for project activities and those that would remain open under the Divide Travel Plan.
Ten Mile Road Improvement Project (County Route 695) also known as Rimini Road.	Foreseeable	Improve road way from the junction with Hwy 12 to the junction with the Chessman Reservoir intersection, just over 6 miles in length. Improvements would include replacement of three bridges and associated railings, bridge drainage improvements, upgrading road signs, re-alignment of road segments, and paving.	Improvement of the road would increase vehicle speeds as well as the number of vehicles venturing up the road. The result in terms of wildlife displacement would probably be similar to what it is at present; but the numbers of wildlife species, large and small, hit by vehicles on the road would increase. Increased use of this road would also translate into heavier traffic on Helena NF roads that emanate from it—namely the Beaver Creek Road and the upper Telegraph and Banner Creek Roads.	There are no anticipated cumulative effects associated with Alternative 1. The action alternatives may result in temporary displacement of local wildlife which would add to the displacement effects associated with this reasonably foreseeable project.

Activity/ Name	Estimated Implementation	Scope of Activity	Effects of Reasonably Foreseeable Activity	Contribution of Project to Cumulative Effects
Tenmile South Helena	Foreseeable	The purpose of the project is to maintain consistent quantity and quality of water within the municipal watershed and improve conditions for public and firefighter safety across the landscape in the event of a wildfire. Approximately 25,027 acres are proposed for treatment (24,020 on NFS Lands and 1,007 on BLM Lands) which would include a combination of commercial harvest of trees, non-commercial vegetation treatments and prescribed fire.	The proposed action would result in the following effects to key wildlife in the project area: approximately 7,150 acres of hiding cover could be removed in Alternative 2 in the Jericho EHU. The Jericho EHU overlaps with the Telegraph project. The Tenmile project could also result in the removal of up to 15 acres of multistory hare habitat and 'other' habitat [stem exclusion, mid-seral, etc.) LAU di-04 (which overlaps with the Telegraph project). LAU di-05 overlaps with the Telegraph project as well; however, the Telegraph project does not include any treatments in LAU di-05.	Alternative 1 would contribute to the effects of the Tenmile South Helena project because forested stands that are killed by mountain pine beetles would revert to early seral stages similar to those early seral stands that would be created by treatments in the Tenmile South Helena project area. The action alternatives would contribute cumulatively to the Tenmile South Helena project by removing up to 2,254 acres of hiding cover in the Jericho herd unit (based on Alternative 2 which is the more aggressive in terms of hiding cover removal). The action alternatives would also add cumulatively to effects lynx habitat and to the linkage corridor along the Continental Divide. The Telegraph project would remove up to 1,184 acres of multistory hare habitat in LAU di-04, 22 acres of stand initiation habitat, 11 acres of early stand initiation habitat, and 1,298 acres of 'other' habitat.
East Deer Lodge Valley Landscape Restoration Management Project	Foreseeable	Beaverhead-Deerlodge NF. Purpose is to achieve Forest Plan Goals including Timber management, Aquatic Improvement, Wildlife Habitat improvement. Proposed activities include timber salvage, commercial thinning, sediment reduction, fish passage, road		Alternative 1 would contribute to the effects of timber harvest in the East Deer Lodge Valley Landscape Restoration Management Project because forested stands that are killed by mountain pine beetles

Activity/ Name	Estimated Implementation	Scope of Activity	Effects of Reasonably Foreseeable Activity	Contribution of Project to Cumulative Effects
		and trail decommissioning. Project includes 2,038 acres of commercial harvest, 340 acres of commercial thinning and commercial harvest, and 162 acres of commercial thinning.		would revert to early seral stages similar to those early seral stands that would be regenerated in the Restoration project. The action alternatives would contribute cumulatively to effects associated with East Deerlodge Valley project if that project removes lynx habitat and/or hiding cover. The action alternatives would also add cumulatively to effects to the linkage corridor along the Continental Divide.
Rimini Substation	Foreseeable	Baxendale Fire Dept.is proposing to pour a concrete slab and construct a 3 bay fire station to store firefighting equipment and to utilize existing underground tanks for the filling of fire engines during suppression activities	This project would have no effect on wildlife.	There are no anticipated cumulative effects.
Private Land Timber Harvest	Unknown	The Project area and Combined Boundary are surrounded by several acres of private land; there are also several small inholdings within both areas. There are no known activities, currently; however, it's reasonable to conclude that some timber harvest may occur in the foreseeable future.	Effects can't be quantified; however, there are potential impacts to a variety of species depending on the area in question.	Alternative 1 will not add cumulatively to private land timber harvest except in those situations where stands killed by mountain pine beetle result in young, seral stands. This will add to any regeneration harvest carried out on private land. The action alternatives will result in removal of some snags although Forest Plan standards will be met and snags will remain abundant in the Project are due to the mountain pine beetle. However, the reduction in snags associated with the action alternatives will add

Activity/ Name	Estimated Implementation	Scope of Activity	Effects of Reasonably Foreseeable Activity	Contribution of Project to Cumulative Effects
				cumulatively to private land timber harvest. Furthermore, the action alternatives will result in the reduction in habitat for a variety of species which will add cumulatively to private land timber harvest.

Appendix E. Maps

Telegraph Vegetation Project Area Vicinity Map

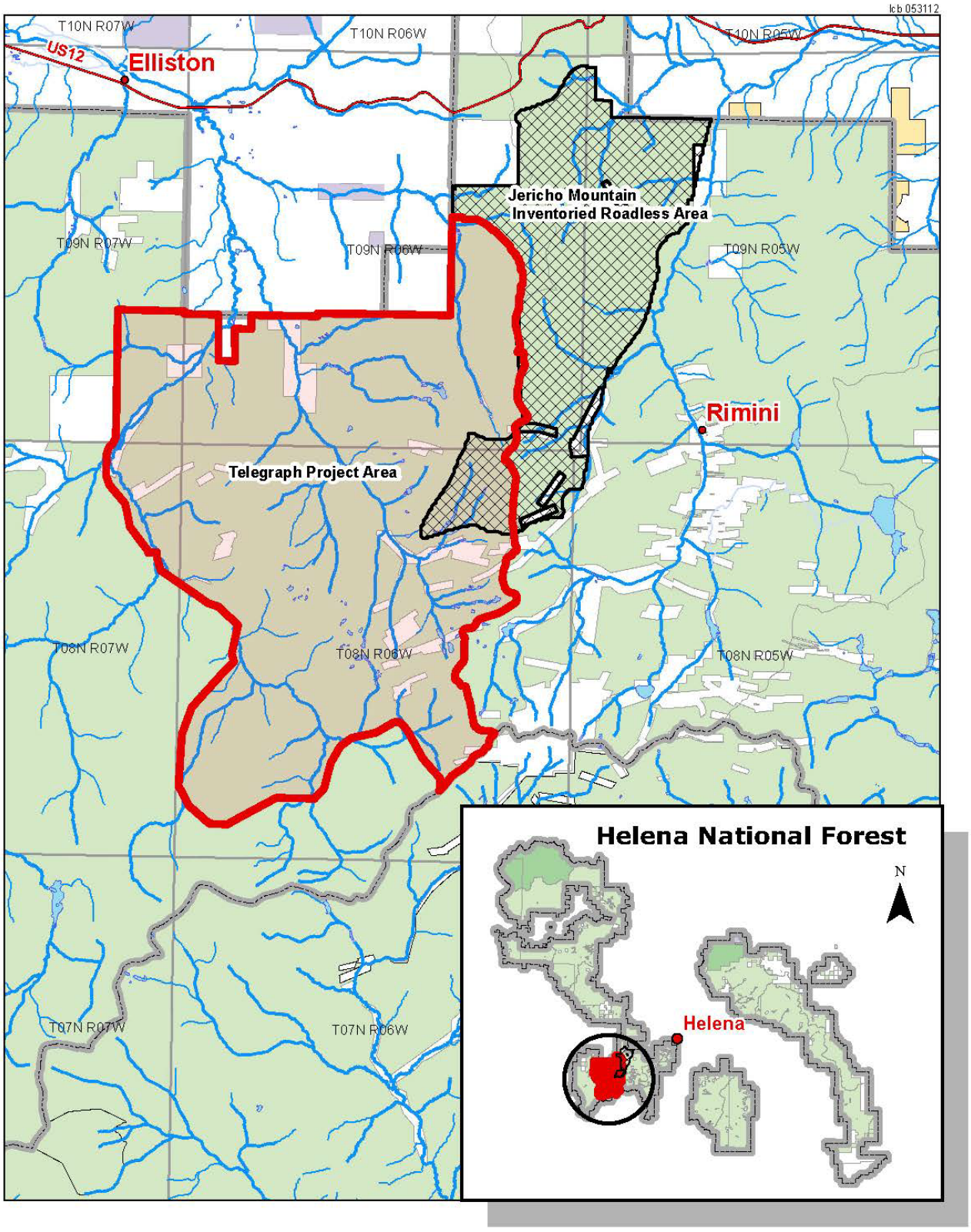

Figure E-1. Telegraph Vegetation Project vicinity map

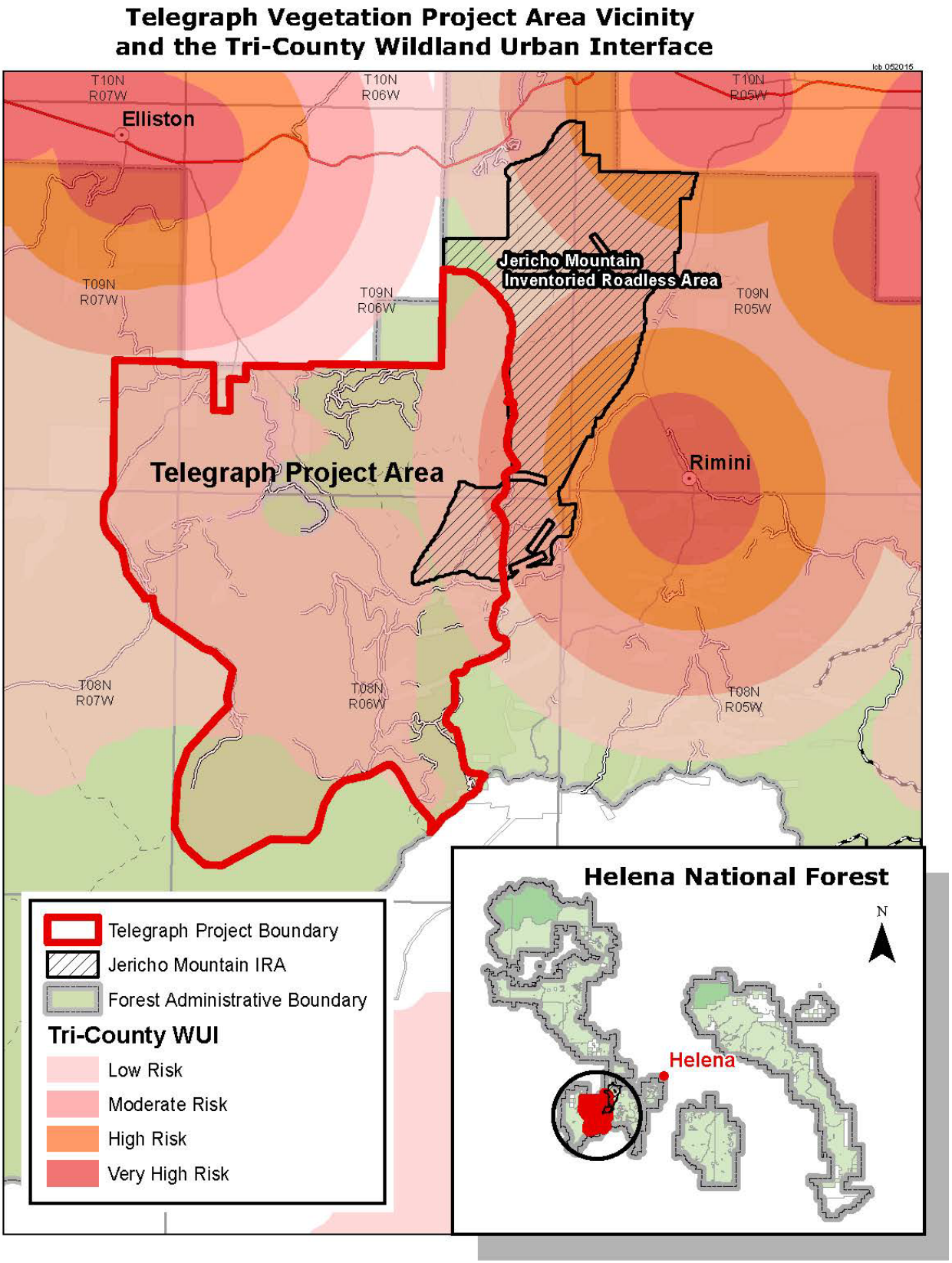

Figure E-2. Telegraph Vegetation Project Area and Tri-County Wildland-urban Interface

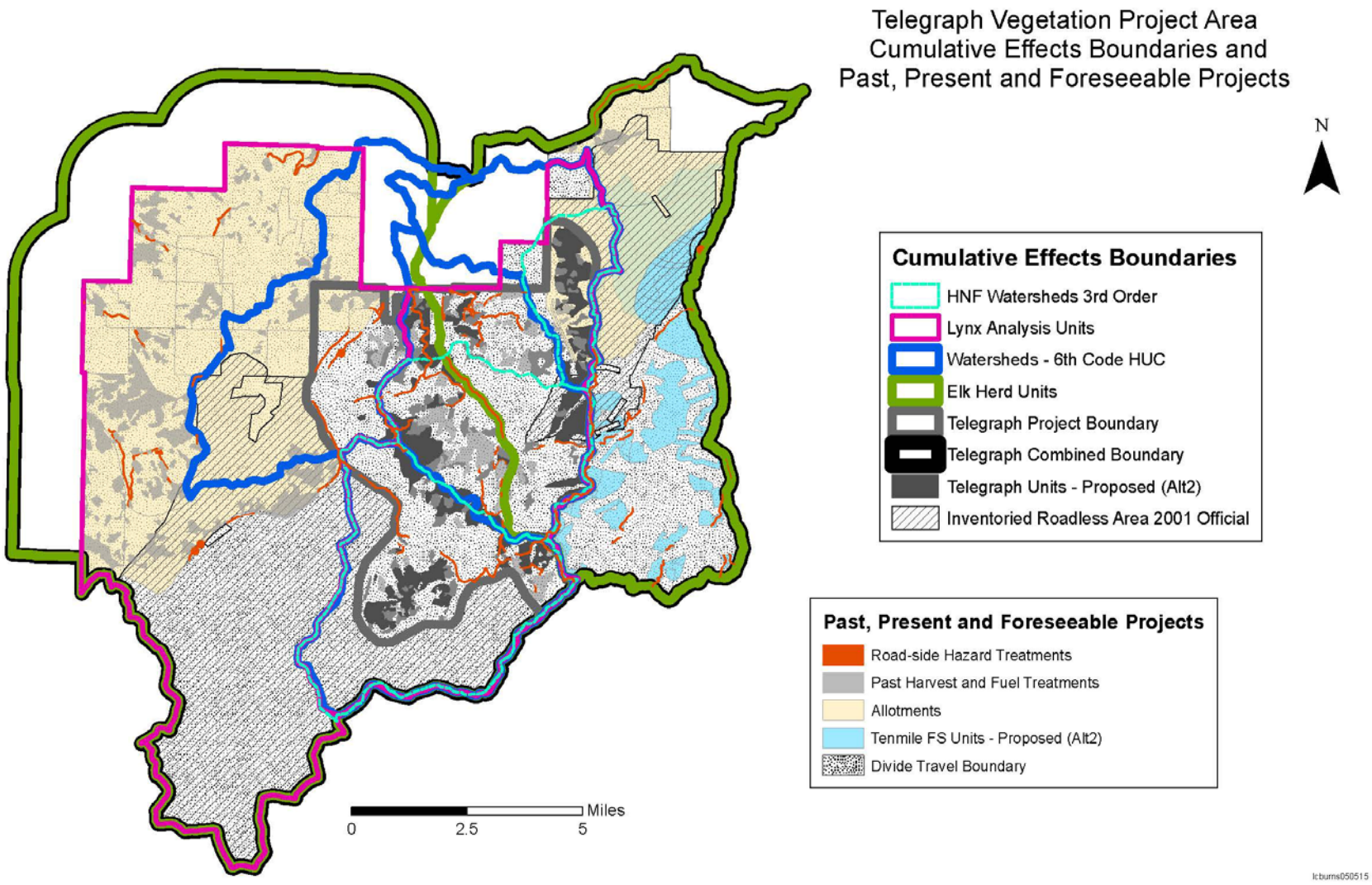

Figure E-3. Telegraph Vegetation Project Area Cumulative Effects Boundaries and Past, Present, and Foreseeable Projects

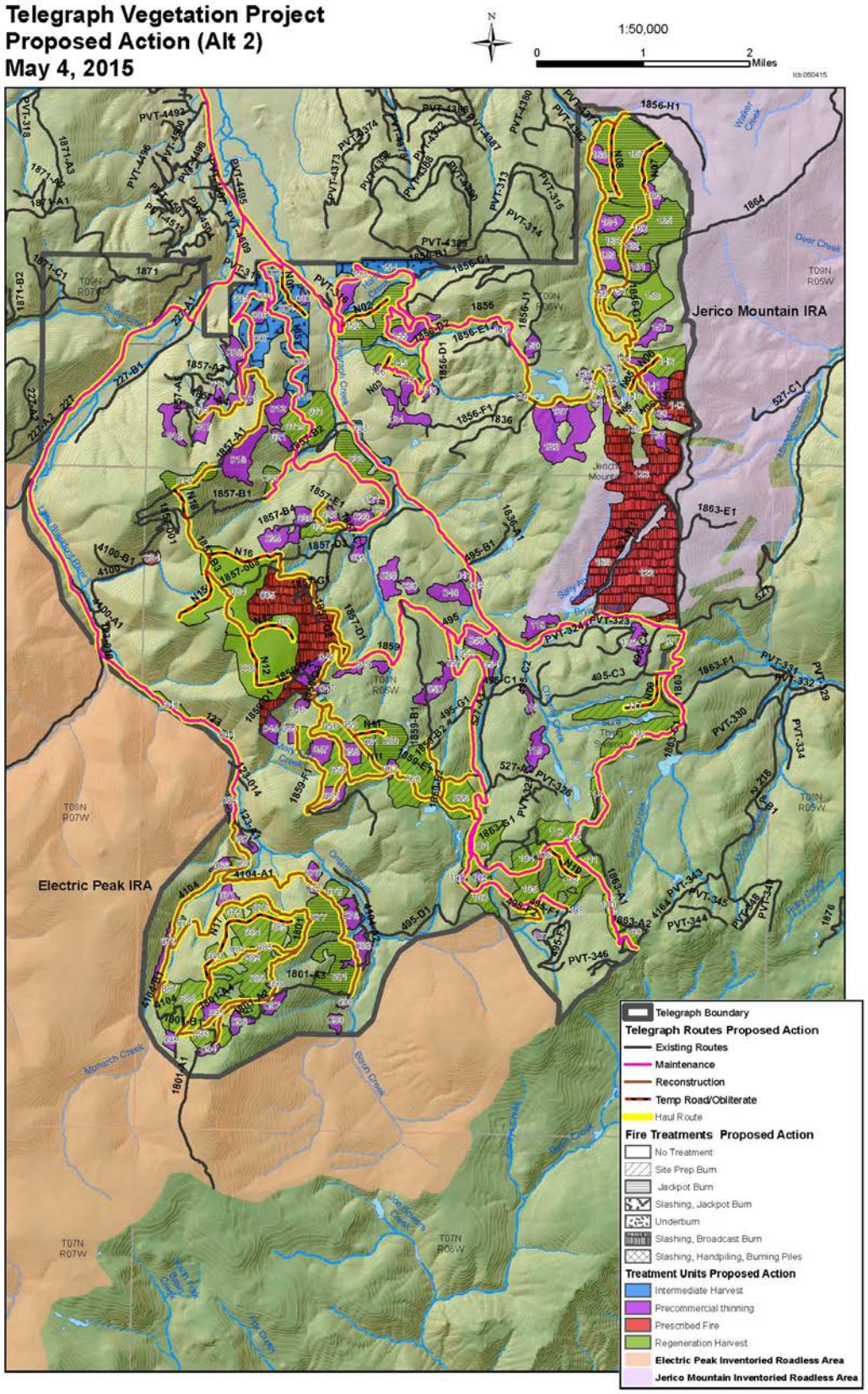

Figure E-4. Telegraph Vegetation Project Proposed Action (Alternative 2)

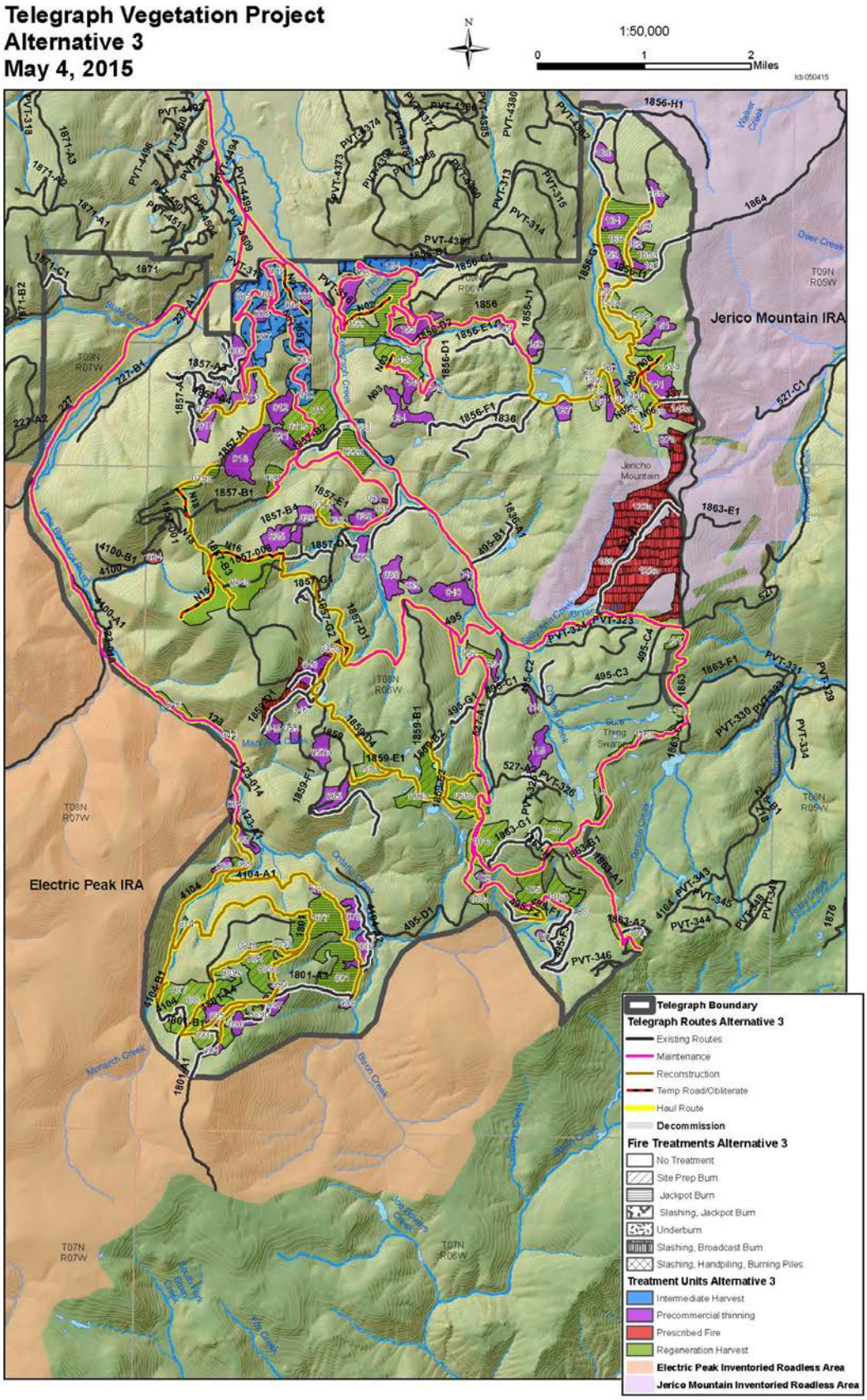

Figure E-5. Telegraph Vegetation Project Alternative 3

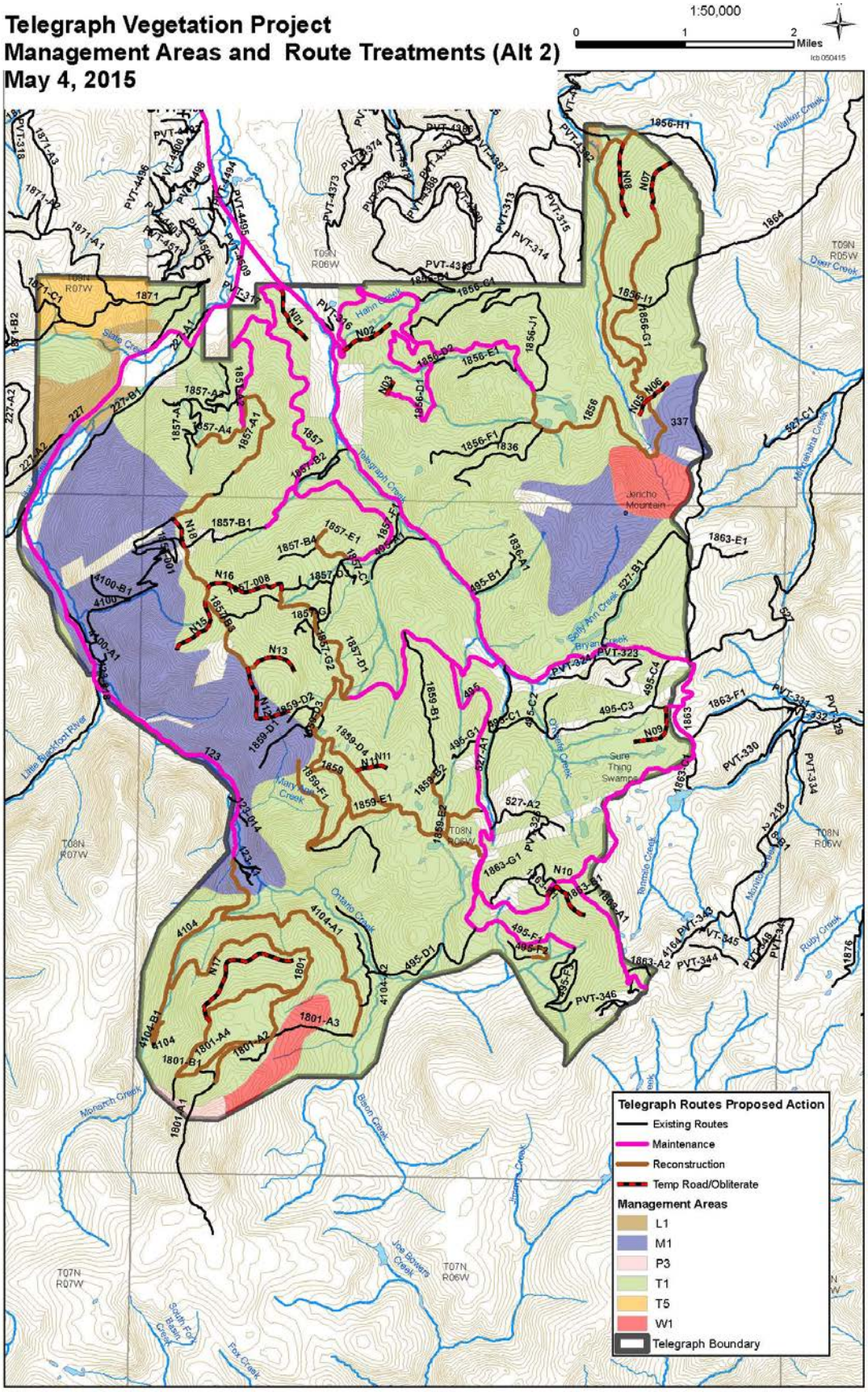

Figure E-6. Telegraph Vegetation Project Management Areas and Route Treatments (Alternative 2)

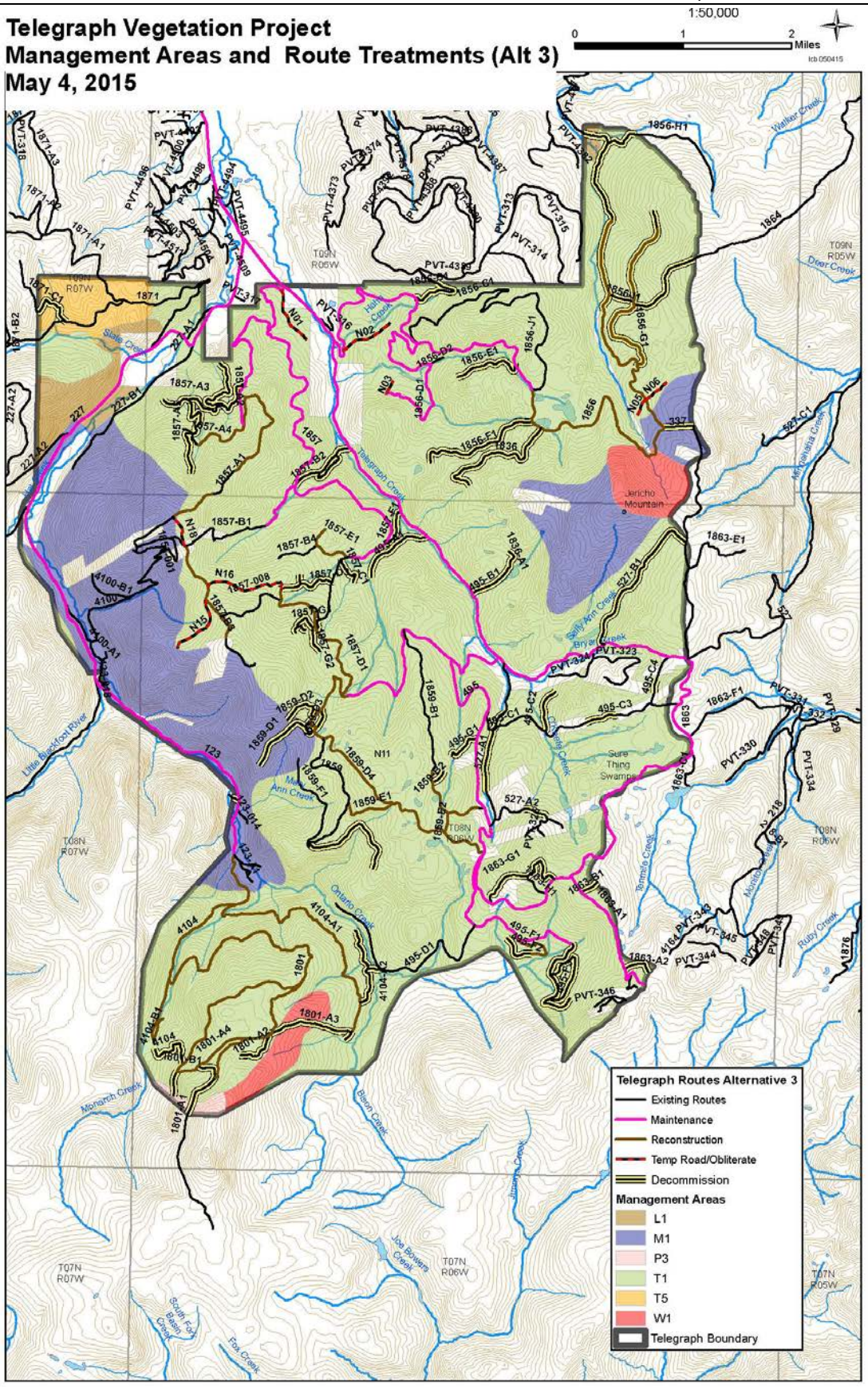

Figure E-7. Telegraph Vegetation Project Alternative 3, Management Areas and Route Treatments